The Ergodic Revisited: Spatiality as a Governing Principle of Digital Literature

James Barrett
For my father, James Arthur Barrett (1940-2013)

"Reading maketh a full man, conference a ready man, and writing an exact man" - Sir Francis Bacon, Of Studies (1625)
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Abstract

This dissertation examines the role of the spatial in four works of digital interactive literature. These works are *Dreamaphage* by Jason Nelson (2003), *Last Meal Requested* by Sachiko Hayashi (2003), *Façade* by Michael Mateas and Andrew Stern (2005) and *Egypt: The Book of Going Forth by Day* by M. D. Coverley (2006). The study employs an original analytical method based on close reading and spatial analysis, which combines narrative, design and interaction theories. The resulting critique argues that the spatial components of the digital works define reader interaction and the narratives that result from it. This is one of very few in-depth studies grounded in the close reading of the spatial in digital interactive literature.

Over five chapters, the dissertation analyzes the four digital works according to three common areas. Firstly, the prefaces, design and addressivity are present in each. Secondly, each of the works relies on the spatial for both interaction and the meanings that result. Thirdly, the anticipation of responses from a reader is evaluated within the interactive properties of each work. This anticipation is coordinated across the written text, moving and still images, representations of places, characters, audio and navigable spaces. The similar divisions of form, the role of the spatial and the anticipation of responses provide the basic structure for analysis. As a result, the analytical chapters open with an investigation of the prefaces, move on to the design and conclude with how the spaces of the digital works can be addressive or anticipate responses. In each chapter representations of space and representational space are described in relation to the influence they have upon the potentials for reader interaction as spatial practice. This interaction includes interpretation, as well as those elements
associated with the ergodic, or the effort that defines the reception of the digital interactive texts.

The opening chapter sets out the relevant theory related to space, interaction and narrative in digital literature. Chapter two presents the methodology for close reading the spatial components of the digital texts in relation to their role in interaction and narrative development. Chapter three assesses the prefaces as paratextual thresholds to the digital works and how they set up the spaces for reader engagement. The next chapter takes up the design of the digital works and its part in the formation of space and how this controls interaction. The fifth chapter looks at the addressivity of the spatial and how it contributes to the possibilities for interaction and narrative. The dissertation argues for the dominance of the spatial as a factor within the formation of narrative through interaction in digital literature, with implications across contemporary storytelling and narrative theory.

**Keywords**

Digital literature, narrative studies, interactive narrative, ergodic, cybertext, spatial, addressivity, interactive design, representational space, spatial practice.
Enkel sammanfattning på svenska

Titel: Att återkomma till den ergodiska metoden: rumslighet som styrande princip i digital litteratur.


Undersökningen inleds med förorden, går sedan vidare till formen - designen - av de digitala texterna och avslutas med hur rumsligheten i verken är adressiva, det vill säga att de

Läsaren bidrar till de digitala texterna med ord eller handlingar som svar på adressiviteten (Bakhtin 1986) i rumsligheten. Vidare bygger denna studie på forskning av

Upplevelsen av rumsligheten som ett sätt att närma sig studier av digitala verk har sin grund i tanken att tala om elektronisk litteratur innebär att tala om en annorlunda förståelse av litteratur i sig (Post 2003). I en sådan, elektronisk litterär kontext betyder det att begreppet litterär textualitet aldrig tidigare varit så öppet för multimedia, mångfacetterad semiotisk analys och tolkning av visuella, auditiva och haptiska element i textinteraktion (Ensslin och Bell 2007). Att läsa digital litteratur skiljer sig således från andra litterära former (t.ex. poesi, romaner och teater), samtidigt som sådan, traditionell, textläsning ofta uppmanar till liknande praktiker. I denna studie är intertextuella och remedierade element inkorporerade i de rumsliga dimensionerna av de digitala verken. En teknik för att uppnå denna integration och som illustrerar relationerna mellan texterna är fokalisering, som jag beskriver i detalj i kapitel fyra och fem (Bal 2009). Genom den digitala textens fokalisering blir tolkning och navigering utförda ur läsarens perspektiv. Avhandlingen identifierar och beskriver objekt, rumslighet, och interaktiva funktioner som samordnas genom mediespecifika former av fokalisering. Resultatet visar att fokalisering i de digitala verken fungerar som en teknik för rumslig kontroll, med dramatiska effekter på berättelsen.

Denna studie föreslår att rumsligheten definierar den interaktiva upplevelsen av digital fiktion och dess berättelser, och därför fokuserar den till stor del på tolkningen och manipuleringen av digitala verk via spatialitet. Genom att
använda analytiska begrepp relaterade till form, plats och rumslighet, är det möjligt att expandera den narratologiska verktygslådan som rör läsarens interaktion med samtida digitala litterära verk. Det är också därför som studiens närläsningar av de rumsliga elementen i de digitala verken avhandlar ämnena konfiguration (design) och paratextuell inramning (förord). Vidare avhandlas symboler (inklusive avataren) som fokaliserande element, samt adressivitet. Alla dessa ämnen resulterar i berättandeutveckling. Den teoretiska inramningen av denna analys är forskning rörande digitalt berättande, rumslig teori, interaktiv design och narrativ adressivitet. Resultatet är den första fördjupade studien förankrad i närläsning av spatialitet i mottagandet av digitala interaktiva litteraturer.
Introduction

This dissertation argues that the spatial is a governing principle for the possibilities of interaction and narrative in four works of digital literature. By ‘digital literature’ I refer to "works with important literary aspects that take advantage of the capabilities and contexts provided by the stand-alone or networked computer" ("What is Electronic Literature?” n.pag.). In this case, “interaction” is made up of responses to the work of digital literature, including interpretation as well as navigation and manipulation, such as opening hyperlinks, entering written text, performing as a character, or responding to and taking up visual, temporal and spatial perspectives. ‘Narrative’, then, is the representation of events, populated by agents, characters or actors and presented to an addressee in a valid sequence. I argue that the spatial elements in the four works control and organize interaction. Here, the spatial is more than just the visual dimensions of the works (breadth, depth and height); it embraces symbols, objects, places and perspectives as well as elements that define characterization, action and events and reference or reinforce specific social and cultural values. Spatial representations (e.g. a body, place or dwelling) create connections between the materials (graphics, hyperlinks, etc.), design (including possibilities for movement and combinations) and language in the digital works. The objective of this dissertation is to establish the importance of spatial control in

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1 The literary aspects I refer to are the cultural values and components expressed by language, images, spaces and sounds in the digital works. For a
2 The narrator is not necessarily part of narrative. One examples of such an absence of a narrator is focalization, which constructs narrative, for example in silent cinema (See Verstraten 110). As a result of focalization agents possess the ability to change narrative, characters assume active roles in development and actors are representations of elements in structure (e.g. the driver, the mother, the murder victim).
organizing these elements and to explain how space influences the formation of narrative in reception.

The four digital works examined in this study are **Façade**, **Dreamaphage**, **Egypt: The Book of Going forth by Day** and **Last Meal Requested** (‘the digital works’). **Façade** by Michael Mateas and Andrew Stern (2005) is a downloadable computer program, set in a three-dimensional representation of a small inner city apartment where two programmed characters, Grace and Trip, live. As the character of a guest you are invited over for drinks and to interact verbally and spatially with your hosts around themes of love, jealously, career, prestige and power. **Dreamaphage** by Jason Nelson (2003) is a website composed of a series of virtual books and charts within a three-dimensional space. We are invited to navigate the space and discover what happened at psychiatric hospital where a mysterious plague has decimated the population. **Egypt: The Book of Going forth by Day** by M. D Coverley (2006, hereafter **Egypt**) is a CD-ROM, two-dimensional multimedia work, and is a story about a woman searching for her brother in Egypt. He is an archeologist who is also searching for an ancient silver casket. The story is interwoven with elements from the ancient myth of Osiris and Isis, also a brother and sister. Finally **Last Meal Requested** by Sachiko Hayashi (2003) is another website, a two-dimensional interactive multimedia documentary on historical themes of violence against minorities and women by the State.

*Background*

This dissertation has its origins in the pivotal *Cybertext: Perspectives of Ergodic Literature* by Espen Aarseth (1997), and particularly its charge that “the standard concepts of

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narratology are not sufficient to explain the literary phenomena of adventure games, and certainly not their difference from other types of literature” (Aarseth, *Cybertext* 111).\(^4\) Aarseth counteracts the perceived failure of narratology “to explain the literary phenomena of adventure games” by introducing the ergodic. The ergodic is derived "from the Greek words *ergon* and *hodos*, meaning, ‘work’ and ‘path’. In ergodic literature, nontrivial effort is required to allow the reader to traverse the text" (Aarseth, *Cybertext* 1). Aarseth explains the value of the ergodic by arguing, "to claim that there is no difference between games and narratives is to ignore essential qualities of both categories. And yet [...] there is significant overlap between the two" (Aarseth, *Cybertext* 5).\(^5\) The present study revisits the ergodic and in doing so focuses specifically on the “significant overlap” between the interactive or ergodic components and narrative elements. I do this by locating shared attributes of effort and narrative within the larger structure of the spatial in the four digital works. In this way, I aim to demonstrate how the spatial exerts a controlling influence over both interaction and narrative in digital literature.

Despite the spatial being acknowledged as influential in the earliest research on digital literature and interactive media, it has been largely ignored as representational. Referring to early text adventure games, Aarseth acknowledges the “spatially orientated themes of travel and discovery”, which “migrated from text to pictures and eventually to three-dimensional

\(^4\) *Cybertext* is recognized as “the first major attempt to examine screen-level effects from the vantage point of their interaction with a text’s underlying formal processes” (Kirschenbaum 2008 43–44). Here Kirschenbaum relates the digital work as an object (‘underlying formal processes’) with its reception.

\(^5\) Murray (2005) and Juul (2003) describe the so-called debate between ludologists and narratologists. The division of narrative and “games” by the ergodic continues to influence research (see Eskelinen 88).
‘virtual reality’ games” (*Cybertext* 101-102). However, space is not analyzed as a representational medium, and thus, in the case of Aarseth, *Cybertext* is restricted to considering only how "the user will have effectuated a semiotic sequence" in relation to the ergodic (Aarseth, *Cybertext* 1). In the semiotic many of the representational elements of the spatial are excluded. The cultural components of a space, such as the representation of class and gender, dealt with in the present study do not adhere to the binary values of traditional semiotics or for that matter to the measurements of topology. Neither of these approaches to the role of the spatial in interactive digital literature explain its role as a medium of expression.

Having set up the primacy of effort in the ergodic, Aarseth goes on to suggest the importance of the spatial by referencing Henri Lefebvre’s model of space and concludes, “as spatial practice, computer games are both representations of space (a formal system of relations) and representational spaces (symbolic imagery with a primarily aesthetic purpose)” (*Allegories* 163). However, Aarseth does not account for how space influences interaction. Instead, Aarseth calls for “a much longer refinement and adaptation of [Henri] Lefebvre’s theory” (*Allegories* 163) in relation to the role of the spatial in digital interaction. Similarly, Janet H. Murray identifies the spatial as unique according to how “only digital environments...

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6 In this case, interactive fiction broadly “refers to a text-based form of computer-mediated interactive storytelling which may contain gaming elements” (Leavenworth 13).

7 In this present study the semiotic is dealt with as just one part of an attention to the address of the works, which operates along with design and the prefaces, which set up how the reader can respond to the digital works within the boundaries of the spatial.

8 For an example of space as a topological set of measurements in narrative see O’Toole (1980).

9 Aarseth’s examples of spatiality are restricted to representations of space, as labyrinth (159), landscape (161, 164, 169), topology (169) and map (165), which he contrasts with an abstract “real space” (169).

10 Representations of space in the digital works include site maps, diagrams, cartographic maps and verbal descriptions.
can present space that we can move through”, but goes on to restrict the discussion to the “interactive process of navigation” (79). As a result, Murray fails to explain how space can influence narrative. To address the presence of space as an interpreted medium in digital interactive works, this dissertation takes up the spatial, specifically defined by Lefebvre’s tripartite model, in order to explain how interaction combines both action and interpretation in a selection of digital works.  

In Lefebvre’s model, representational spaces embody “complex symbolisms, sometimes coded, sometimes not, linked to the clandestine or underground side of social life, as also to art (which may come eventually to be defined less as a code of space than as a code of representational spaces)” (Lefebvre 33). Such representational spaces operate in the digital works in the sense of “mental inventions (codes, signs, ‘spatial discourses’, utopian plans, imaginary landscapes, and even material constructs such as symbolic spaces, particular built environments, paintings, museums, and the like) that imagine new meanings or possibilities for spatial practices” (Harvey 218-219). Interaction with these spaces results in spatial practice, or how space “embraces production and reproduction, and the particular locations and spatial sets characteristic of each social formation” (Lefebvre 33). Along these lines, reader interaction with the digital works is ordered according to how this social world/reality is represented in the spatial.

The following analysis applies Lefebvre’s model of the spatial to the digital works. It argues that space defines interaction and narratives, according to how “the reconstruction of every aspect of the world necessitates a ‘spatial’ point of view

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11 Aarseth’s conception of space as uniform is contradicted by Lefebvre when he writes, “If it were true that space was the location — or set of locations — of coherence, and if it could be said to have a mental reality, then space could not contain contradictions” (293).
– psychology, characters, norms, and even, strange as it may seem, plot and time” (Zoran 312). As I explain in detail in the first chapter, Lefebvre’s model provides an efficient toolset for the analysis of how space is composed of characters, norms, plot and time, and how these contribute to the realization of narrative through reader interaction with the digital works. In my analysis interaction is structured by the spatial elements of the digital works, which are realized in spatial practice in interaction. I evaluate how representations of space in the digital works can be "tied to the relations of production and to the 'order' which those relations impose, and hence to knowledge, to signs, to codes, and to 'frontal' relations" (Lefebvre 33). I claim that the reader completes these “frontal” relations by interacting with the ergodic elements in the digital works. However, I contend that representations of space do not control interaction to the degree to which representational spaces do. I demonstrate this through close reading.

Close Reading
My analysis of the digital works and the control the spatial has over interaction and narrative is based on close reading. Close reading refers to “close interpretations of single ‘texts’ (‘text’ here understood as any cultural artifact)” (Bardzell n. pag.). I refine Bardzells' general definition with Jerome McGann’s more specific definition of text as “a document composed of both semantical and graphical signifying parts” (McGann 138). In the digital works the graphical signifying parts are made up of moving images (i.e. video, animations and architectural

12 These “frontal relations” engage in the “production [of] codify power relations, for example, in the form of buildings or public monuments: ‘Such frontal (and hence brutal) expressions of these relations do not completely crowd out their more clandestine or underground aspects; all power must have its accomplices – and its police’ (33)” (Nolden 128). In the digital works similar control is asserted over interaction through the “codify power relations” expressed in such structures as monumentality, as I explain in chapter four.
representations), along with still images, objects, and animated characters. I divide these elements in my analysis according to the prefaces, design and addressivity of the texts. As I explain in detail, addressivity is the expectation of response within an utterance.

The close reading of interactive digital works is first described in Close Reading New Media: Analyzing Electronic Literature, edited by Jan Van Looy and Jan Baetens (2003). Van Looy and Baetens present a close reading that accommodates interaction while at the same time evoking the traditions of textual analysis. As they write:

The only way to read hyperfiction thoroughly is to read it as we have learnt to read texts: slowly, with much effort, continually going forward and backward, not by clicking, navigating or experiencing randomly. The only way to act as a free reader is not to read more rapidly, but on the contrary, to slow down, to look into details, to build up a framework brick by brick (Van Looy and Baetens 8).

This slowing down and attention to details brings about “a dialogue with the forms, the structures, and the meanings of both the text and the hypertext” (Van Looy and Baetens 8), which is essential for analyzing the interactive components that support narrative. I suggest that in any close reading, “the forms, the structures, and the meanings” of a digital interactive text must include the spatial as part of that “framework” (8).

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13 Close reading for analyzing the digital texts is grounded in the idea “there is no necessary reason why interfacing through rigorous practices of close ‘reading’ cannot continue in a virtual reality space” (Liu 320). The spaces of the digital works are very much of the order of the virtual.

14 Hypertext refers to “electronic or film narratives in which discontinuity is a major artistic strategy” and that rely upon “discontinuity, fragmentation, multiplicity and assemblage,” which engage in “hypertextual strategies in opening up the narrative space for other stories and other voices to surface” (Odin 2).
Similarly, my close reading concentrates on the spatial in representational terms, such as perspective (scale, depth and distance), objects, characters, language components and symbolic visual dimensions. These spatial elements define the processes of reader interaction with the digital works. In other words, the spatial dimensions determine narrative structures as an interactive process of representation.

My close reading examines the digital works as each having "representation as its fundamental interface" (Dovey and Kennedy 10). In this case representation is dominated by the spatial, which as I explain in my opening chapter governs reader interaction with the interface, as the rules of design and address. Interpretive responses are applied to the works in accordance with how

[a]cts of multiple active interpretation of traditional media are not made irrelevant by digital and technological forms of interactivity but are actually made more numerous and complex by them. The more text choices available to the reader/viewer/user/player, the greater the possible interpretative responses (Dovey and Kennedy 6).

The linking of interactivity to “interpretive responses” aligns the digital works with “new media economies insofar as they are excellent examples of the shift from a participatory media culture (see Jenkins 1992) to what games theorist Sue Morris [...] has termed a ‘co-creative’ media form” (Dovey and Kennedy 123). This shift from ‘participatory’ to ‘co-creative’ results in changes in representation, whereby the construction of the digital text (according to its rules) and what it represents (e.g. events, history, characters etc.) as a result of interaction. These co-creative reception practices bridge the ergodic and narrative,

\[15\] I return to the materiality of the digital works in chapter one, as well as in my conclusion to this introduction, by relating how I organize this dissertation.
such as in the digital works examined here. I contend the spatial governs these co-creative practices. Thus my analysis focuses on the possibilities for spatially controlled interaction with the ergodic elements of the digital works.

*Basis for Analysis and Argument*

The spatial structures that control interaction are generally organized in the digital works according to “screen and interface metaphors,” as apportionments of “surface/depth, interior/exterior and container/contained” (Marshall n. pag.). Examples such as interacting with a virtual object, or a perspectival field, or in the representations of place, are constructed in the digital works (e.g. visual perspectives placing the reader within the space of the narrative as in *Dreamaphage*, *Last Meal Requested* and *Façade*), or in the case of places, as container and contained (e.g. a character as a local, or adhering to a social class or gender or ethnicity as in *Egypt*, *Façade* and *Last Meal Requested*). Interaction with these spatial elements operates against the backdrop of representation; composed of references to established cultural, social, historical and linguistic concepts (e.g. an accent as representing a place and it in turn representing a socio-economic class).

I assert that space in the digital works relies on three overarching interface metaphors, which are a) perspective, b) monumentality and c) addressivity. As I explain further in my opening chapter, perspective centers on point-of-view and focalization, or “the perspective in terms of which the narrated situations and events are presented; the perceptual or conceptual position in terms of which they are rendered (Genette)” (Prince 32). I adopt the monumental from Lefebvre, as “the strong points, nexuses or anchors” (222) that define the

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16 The first-person perspective of the FPS is used in two of the digital works examined in this study.
overall representational nature of a space.\textsuperscript{17} I apply such monumentality to the digital works for its role in a representational space that is “directly lived through its associated images and symbols, and hence the space of ‘inhabitants’ and ‘users’” (Lefebvre 39). The space of inhabitants and users includes places that function as representational structures. Representational space is thus both interactive and interpreted, which I illustrate with my analyses of class and gender in the representation of places in the digital works. Addressivity is how the work is always “constructed while taking into account possible responsive reactions” (Bakhtin, \textit{Genres} 94). I use perspective, monumentality and the addressive as modes of expressing class and gender values in the digital works to show how spatial dimensions govern the interface as a representational structure. This representation includes ergodic components that contribute to narrative via interaction.

My connection of the spatial to narrative and interaction in the digital works draws heavily upon Henry Jenkins’ four categories for spatial storytelling, which are “evocative spaces” (123), “enacting stories” (124), “embedded” (126), and “emergent narratives” (128). In Jenkins’ classifications evocative spaces are determined by the possibilities expressed in interaction, design and addressivity as representational. In the digital works place, perspective, time, and order (procedurality) create ‘emergent narratives’. Likewise, the conditions for “enacting stories” are created by representations of places, interactive components (e.g. the possibility to converse with characters), and how representational elements in the works set up reader interaction. By interacting with the representational elements of the spatial dimensions of the works, such as navigating or manipulating a virtual object, the reader bridges both representation and material in relation to

\textsuperscript{17} My analysis of the spatial is grounded in Lefebvre (222-226).
places, perspectives, time, and order. It is the spatial that dominates the combinations of all these elements in interacting with the works, and based on my own analysis I believe this is also true of Jenkins’ four categories for spatial storytelling (Jenkins 123-128).

Spatial practice related to the digital works includes the possibilities for interaction with the ergodic. In other words, the impressions of movement, transitions and changes that result from interaction with the ergodic are dominated by the spatial in the digital works. This domination is consistent with Lefebvre’s “perceived — conceived — lived triad (in spatial terms: spatial practice, representations of space, representational spaces) [which] loses all force if it is treated as an abstract 'model'. If it cannot grasp the concrete (as distinct from the 'immediate'), then its import is severely limited” (41). This means that interaction with space is an ordering system of experience and understanding. Accordingly space is a concrete entity that structures interaction with the digital works, while also contributing to interaction with the more abstract possibilities of interpretation and atmosphere. In this way representational space as the arbiter of interaction is “multifaceted: abstract and practical, immediate and mediated” (Lefebvre 266). I present my own concrete model for spatial interaction with the digital texts in the following chapter. In summary, representational space in the digital works directs interaction and narrative according to rules and material forms, which I adapt from Lefebvre's model. These rules exist as design (material), language (addressivity), and overall structure and context (textual). By analyzing space it becomes possible to unify both the representational and structural in the digital works as components of narrative.

I close read the digital works as spaces, and in doing so I re-examine what Janet H. Murray terms “procedural
authorship” in digitally mediated narrative, whereby authorship includes “writing the rules by which the text appears as well as writing the text themselves”, (Murray 152). Murray’s relating “the rules by which the text appears” to procedurality relates order to interaction and narrative. However, Murray’s "bardic storytelling method” (191) emphasizes how each re-telling of a story is done a little differently around a basic structural formula (190). The bardic method stresses established story elements, or what Murray terms "primitives' or basic building blocks of a story construction system" (190). These ‘basic building blocks’ can be understood as metaphors for the relationship between narrative and interaction in digital texts (Murray 188-194). However, such a ‘bardic storytelling method’ only provides the framework for the possibility of change in narrative structure, and does not explain how the ergodic contributes to narrative or how the rules of interaction with digital multimedia operate in relation to narrative outcomes. I argue the space controls such interaction. The rules for responding to the digital works, as building blocks or otherwise, operate within these defined spatial perimeters.

Finally, my analysis aims to show how the spatial contributes to the digital works at the level of genre. The relevancy of genres in interactive digital literature is also introduced by Henry Jenkins in *Game Design as Narrative Architecture*, which argues that such works should be treated, “less as stories than as spaces ripe with narrative possibilities” (119). In his explanation of how space can be “ripe with narrative possibilities” Jenkins suggests that the spatial operates as a medium of expression and ordering according to what are essentially genres. Jenkins charts selected genres of spatial storytelling in relation to an “older tradition of spatial stories, which have often taken the form of hero’s odysseys, quest myths, or travel narratives” (122). These narrative genres
exist within a larger tradition of “spatial stories and environmental storytelling” (121). The following chapters explain how similar spaces are “ripe with narrative possibilities” and how these govern reader interaction, by answering three primary research questions.

Research Questions: Space, Interaction and Narrative

This dissertation attempts to answer three research questions, respectively concerning space, interaction and narrative. The first is: how is space produced in the works? This question examines how space dominates both the interactive and representational factors of the digital works. Through the application of Lefebvre’s spatial model, I argue that representations of space and representational spaces create the experience of spatial practice for the reader of the digital works. I use the broader headings of Prefaces, Design and Addressivity to focus on the spatial themes introduced here. In answering my first research question I identify and explain spatial representations in the works according to how they set up perimeters for reader interaction (i.e. spatial practice). I examine maps, diagrams, charts, indexes and contents sections (as prefaces), as well as graphical images as representations of space. I investigate perspective, created by visual depth and scale, with haptics (touch simulation) with objects, and spatially defined by the use of language and its genres (i.e. the language of the kitchen, of the street, the ghetto etc.) in representational spaces. Finally, I examine gender and class in representational spaces to explain how reader interaction with coded “aspects, elements and moments of social practice” (Lefebvre 8) set the

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18 Zieleniec proposes the representation of space as a means of exerting control (74).
perimeters for interaction and create the conditions for narrative.  

My second research question is, how does space influence interaction with the ergodic? In this case the ergodic exhibits “the forced succession of events” (Eskelinen 87). I argue that space unites the ergodic and the narrative elements of the digital works. The reader engages with the spatial in the digital works via affordances, or “the action possibilities of a user interacting with a designed object” (Gero and Kannengiesser 1). Engagement with the interface as affordances results in both actions and meaningful narratives. Two examples I discuss of how space influences this interaction are representations of social class in the neighborhood view out of an apartment window in Façade, and the movement through spaces differentiated by stereotypes of gender (e.g. feminine emotion, masculine power) in Egypt. I explain how reader engagement with the ergodic is qualified by these spatially derived but representational components of narrative.

My final research question is: what are the results from the dominance of space over the ergodic? By reading the spatial as a system that controls the ergodic we can understand how narrative, (the representation of events, populated by agents, and presented to an addressee in a valid sequence), results from interaction with the ergodic components. In this case, narrative is not, as Aarseth points out, “the grand structure of everything” (1997 94). Rather, narrative results from complying with the spatial, as a representational set of affordances that frame

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19 I refer specifically to time as a part of representation the texts in in relation to the repetition of single moments as part of addressivity, which is related to the temporal in relation to perspective.

20 A cybertext is “a text as a concrete (and not metaphorical) machine consisting of the medium, the operator, and the strings of signs” (Eskelinen 2001 n. pag.). This definition opens cybertext to comparisons with urban traffic systems and production lines in factories. I contend by adding the spatial (and possibly other) representational dimensions, the cybertext can be more communicative, imaginative and literary.
language, visual composition, audio, and navigation in the works. It is this sense the ergodic contributes to narrative, although interaction does not always result in the development of plot or characters and events. The primary argument applied to the digital works examined here is that it is the spatial that renders the ergodic a cause of narrative. Space dominates the ergodic because of how it both mediates the experience of the text at the point of interaction while also structuring what it represents. This space is experienced in the digital works through the ergodic by the entering of written text, navigating, opening links, manipulating objects haptically and combining audio samples with each other and with images.

**The Chapters**
The order of chapters in this dissertation is determined by the sequence suggested in the reader’s movement from the prefaces (“every type of introductory preludial or postludial” Genette 161), to the design (materials and configuration) and finally to addressivity, or how the digital work anticipates responses as a text. Chapter one presents the method I have mentioned here and relates it to existing research in more detail. I describe how the spaces of the digital works position the reader in relation to interaction and ultimately narrative, a process that is, in turn, developed in the prefaces, the design and the addressivity of the digital works. In chapter one I not only refer extensively to previous research, but also situate my own argument and analysis according to previous findings. As stated, my methodology is based on close reading, with the influence of interaction design theory, spatial theory and digital narratology. The idea that space creates and controls both interaction and narrative is clarified in detail in chapter one.

Chapter two presents the methodology developed for the following analysis of space and its relation to interaction and
narrative. This methodology adapts the spatial system formulated by Henri Lefebvre (1974 2000) and applies it to the ergodic textual model developed by Espen Aarseth (1997). The result is a model for interaction with meaningful space that determines a significant amount of the narratives that emerge from it. The spatial here is composed of representational space, representations of space and spatial practice. Design, form, addressivity and signs are identified as spatial components. These elements qualify the ergodic in the work and play an important role in narrative development. The reader interacts with each element within the spaces of the digital works. Design is the material configuration of the works, and is closely related to form, which is the material background from which the work is created. For example, several of the works are coded using Flash programming. This is the form of the work, as websites or stand-alone programs. Design is what makes that form recognizable, or in other words it is the ideas embodied in form. Addressivity, as discussed in chapter one is the responsive potentials of the utterance, be it a website or a verbal statement. Addressivity rests, as I explain in the final chapter, on the anticipation of responses. Signs in the spaces of the digital works compose addressive utterances and in doing so, take on iconic and sign characteristics, which I explain in reference to the work of Charles S. Peirce.

21 Here I refer to Bakhtin’s concept of the utterance, not as a single isolated communicative act, but as a link in a chain of communication. In the words of Bakhtin, “Utterances are not indifferent to one another, and are not self-sufficient; they are aware of and mutually reflect one another... Every utterance must be regarded as primarily a response to preceding utterances of the given sphere (we understand the word ‘response’ here in the broadest sense). Each utterance refutes affirms, supplements, and relies upon the others, presupposes them to be known, and somehow takes them into account... Therefore, each kind of utterance is filled with various kinds of responsive reactions to other utterances of the given sphere of speech communication” (Bakhtin, Genres 91). Although focused here on speech, I maintain this definition throughout the present study grounded in the signs and the symbolic elements within the spatial.
The third chapter focuses on the prefaces and explains how reader engagement with the digital works begins with the introduction of the spatial components. Space is created in the prefaces according to the mapping of the works. This mapping is achieved by static (i.e. non-interactive) representations of space. The prefaces position the reader by introducing the works in representations of space - diagrams, site maps, images and descriptions of the works – that suggest certain forms of interactions with the ergodic components of the works. Such interactions are prescribed because the reader has not yet encountered the works. In this way, I argue that the prefaces are attempts to create a priori conditions for reader interaction with the digital works, and these conditions can be understood as primarily spatial. Along with the representation of space in the prefaces, the reader is also interactively drawn into the representational spaces of the works by techniques that transgress narrative, such as meeting a character, being positioned into the space of the narrative or receiving an object from the narrative world. These techniques provide images of interaction according to representational space. Further, characters and events are introduced in the prefaces as components of a spatial configuration and not as identities, but either as features of larger spaces/places or as elements in spatially derived epiphany, aporia or intrigues. Finally, these techniques are transgressive as they break through the ‘fourth wall’ and draw the reader into an interactive engagement with narrative elements outside the strict representational perimeters of the text, in the prefaces.

The fourth chapter takes up the creation of space by design, or how material configuration generates the spatial conditions that influence interaction and narrative. Design represents a space shared by the reader and the characters, images, objects and sounds of the works. The contexts that
result from this sharing of space determine interaction, where both the reader and the medium play a decisive role. The interface as a product of design, “is not simply the means by which a person and a computer represent themselves to one another; rather it is a shared context for action in which both are agents” (Laurel xiv). This “shared context for action” is the interface of the digital works as a space. In design, the reader is orientated by a shifting point of view in the spaces of the works. This space is represented as a transition zone between the material conditioning of the ergodic and the interpretation that is part of interaction and narrative. I position space in relation to interaction design theory, according to how interactive design makes “ideas visible” (Löwgren and Stolterman 51). The designed spaces of the digital works can be understood as composed of “intellectually worked out signs” (Lefebvre 38-39), which are “informed by effective knowledge and ideology” (Lefebvre 42). These signs introduce the spaces of the works to the reader and thereby influence interaction with the ergodic.

The fifth and final chapter examines how space can be addressive in the digital works. Here I explain how space invites responses from references to and representations of class and gender. I argue that class and gender are addressive in how they are portrayed or referenced in the digital works within the representation of places, as well as how they are related to the components of the ergodic. Expectations in each utterance give narrative its contexts, in how class and gender are spatially represented as conditional for reader interaction with the ergodic. Examples of this conditioning of interaction include the attachment of gender stereotypes to places within the space of Façade, the separation of space into colonial and colonized in Egypt and the class components of the representation of South Central Los Angeles in Last Meal Requested. Each of these
examples is loaded with addressive anticipation of responses to the digital texts.

In the final chapter I discuss how interaction with the digital works is guided by representations of place as a product of the spatial. In turn, place is referenced in two ways. Firstly, place operates as locations or a point in the progress of the reader in the works, which are elements in the representation of space. Secondly, place is established according to representational spaces, most often as genres that are open to interpretation and responses. These genres are defined by domestic places (e.g. living room, home, apartment, kitchen) and as places demarcated by class, such as neighborhoods that are represented as either poor or rich. The responses provoked by the address of these places define character interactions (including those of the reader as a character within representational space), as well as narrative events, in the choices and perspectives offered by the ergodic.

I conclude this study by summarizing how the spatial influences interaction with the digital works. Furthermore, I describe how space controls interaction by determining the possibilities for responding to the ergodic. The possibilities for interaction as determined by the spatial create the narratives the reader experiences with the digital works, in relation to characters, their actions, settings and events. My analysis is grounded in the idea that traditional narratological concepts do not explain how such a story is created when someone interacts with a digital literary work. By adapting concepts related to the spatial and interactive dimensions of the digital works, as I explain in chapter two, it becomes possible to discuss narrative that is programmed by that depends on the input from an interpreting subject (i.e. the reader).
Contribution

This study contributes to the critical study of digital literature in three ways. Firstly, it adds to the scholarship by its analyses of the digital works according to the controlling influence space has over interaction and narrative. This is an analytical approach that has not been developed to the level that it deserves in the literature. My earlier citing of Aarseth (Allegories 163) and Murray (79) indicates a long-term awareness of the spatial in digital works similar to those discussed here. However this awareness has not been met by research practices. Such analytical attention to the spatial in the study of narratives derived from digital interactive media has applications far beyond the sphere of digital literary theory. The authorship of digital media that relies on interaction requires a theoretical base upon which to develop and diversify. This thesis aims to make a contribution towards this knowledge base.

Secondly, my study establishes an original critical framework for the study of digital literature. This framework is a result of its unique attention to combinations of reader interaction and the spatial. The primary argument that results from this exploration is that space is the dominant force in reception between interaction and narrative. By focusing on the role of the spatial in the digital works, the simplistic division of narrative and user effort is bypassed. This division has been highly problematic for the overall progression of research on digital works that rely on interaction to deliver narratives. Instead, this dissertation attempts to transform the division of representation and material configuration into a three-part model of spatial interaction by proposing the spatial as a key

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22 Murray (2005) and Juul (2003) describe the divisions between ludologists and narratologists from either side respectively. The proposed division of narrative and ‘game’ by the ergodic continues to influence research (see Eskelinen 88).
component of how interpretive interaction and the experience of narrative are accomplished in digital literature.

Thirdly, the thesis highlights the need for a practical analysis of the spatial as a representative medium within the digital interface. The need for such a spatial analysis of interaction and narrative is reflected in the “analytical framework for games studies” set out in Dovey and Kennedy’s *Game Cultures: Computer Games as New Media* (120-22). Space as a dimension of narrative in games is not represented in the text. The only detailed analysis of production in *Game Cultures* is “a case study of Pivotal Games made in December 2003” (Dovey and Kennedy 43). Similarly, Aarseth does not examine the spatial following the call for a refinement of Lefebvre’s theory in relation to digital ergodic works (*Allegories* 163). Since Dovey and Kennedy’s study there have been a number of further analyses on digital literature that combines material-based interaction with the aesthetics of interpretation. However, the specific analysis of the spatial as governing interaction in digital literature is lacking in general research. Ian Bogost (*Operations, Persuasive*), David Ciccoricco (2007), Astrid Ensslin, (*Second Person, Unintentional*), Ensslin and Alice Bell (*New Perspectives, Click=Kill*) and Alice Bell ((S)creed), Marie-Laure Ryan (*Cognitive Maps*), Jack Post (*Requiem*), D. A. Harrell (*Computational Narrative*) and Alexandra Saemmer (*Poetics of (de-)coherence*) are some of the researchers I respond to in my investigation of the union of material form and interpretation in the analysis of digital literature.

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Reading Interactive Spaces

I now turn to the theoretical basis for my study and its background. As stated in the introduction, the central argument of this study is that space controls the ergodic dimensions of the digital works, and as such is one of the dominant forces behind how narrative is realized. The ergodic is a term devised by Espen Aarseth to explain how reader effort affects the text. In the ergodic, as I have already explained, “nontrivial effort is required to allow the reader to traverse the text” (Aarseth, Cybertext 1). But in this case, non-trivial effort is more than the clicking of links. Reader interaction is the outcome of effort, in this case under the influence of the spaces in selected digital works of literature. The result is that the reader inhabits the spaces of the digital works as texts according to the techniques I describe in the following chapters.

To demonstrate how space controls both interaction and narrative in the digital works, I examine four critical concepts that I argue are grounded in the spatial. In this chapter I clarify these as i) monumentality, ii) addressivity, iii) perspective and iv) place, by drawing upon established research in digital literature, narrative and interaction studies. In my endeavor to explain how each contributes to space as both interactive and representational, I establish how the selected digital works exemplify the dominance of space in a hybrid form of spatial and literary analysis. I first explain how and why close reading is applicable to the digital works. I then go on to outline the specific form of close reading adapted to the interactive and spatial properties. The purpose of this close reading is to determine the role of the spatial in the digital works in regard to interaction and the realization of narrative.
Close Reading Space in the Digital Works

Close reading has a tradition and a history and this dissertation is situated in relation to both. Any close reading of interactive digital literature should consider how “we are left with an inherent contradiction for close reading digital literature: one simply cannot close read digital text in the New Critical sense, for reading a text as a text does not work when you can no longer take the ‘text’ to be an idealized abstract site of formal interplay” (Ciccoricco, Materialities n. pag.). The text as a site for formal interplay is rather the interaction with formal, material, and addressive elements that make up the structures of the digital text. In this interplay reader behavior ranks equally with interpretation as part of reception. It is the contention of this study that close reading can be applied to the formal, material, and addressive dimensions of the digital text within the larger field of the spatial.

To account for any lack of formality, such as grammar and allusion, in digital texts, Ciccoricco rightly connects the close reading of interactive media to the genealogy suggested by I. A. Richards’ statement that, “a book is a machine to think with” (Ciccoricco, Materialities n. pag.; Richards 1). Richards’ close reading of the “machine” that is a book, as an act of interpreting media with material and physical dimensions, is a well-known foundation for New Criticism. Similar contemporary close readings that have materiality at its center make it possible to relate interpretation to the reconstruction that occurs with the interactive potentials of digital literature. My close reading attempts to focus on the meaning-making

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23 Richards extends the machinic metaphor for the book in Principles of Literary Criticism, as “a loom on which it is proposed to re-weave some raveled parts of our civilization” (Richards 1). The loom comparison suggests a process within reader engagement with the text as a material entity not dissimilar to the engagement demanded of the digital works.

24 For the material as meaningful in the digital works I go on to reference the material specific analysis of N. Katherine Hayles (Writing Machines).
machine that is the material work, which is in this case the
digital works. I contend that interaction with the material
 specifics of the digital works are dominated by the spatial, in a
system that is both interpreted and interacted with for the
purposes of narrative formulation. Thus the following close
readings of interactive digital works are grounded in the
interlinked elements that comprise the spatial as a system of
representation.

The following analysis of space in the digital works
acknowledges “close reading as a historical medium-specific
practice” with readers “as ‘actual’ users of hardware and
software, and re-embodied through our (fictional)
representations as implied readers in the virtual domain”
because “digital fiction isn’t just ‘read’, or ‘watched’, or ‘played’ -
it is ‘experienced’” (Bell, (S)creed n. pag.). By acknowledging
the experience of the text as central to close reading, the
interpretive possibilities as well as the changes brought about
by interaction with the materials can be explained. In order to
analyze such interactive dimensions of the digital works, my
close reading is indebted to Jan Van Looy and Jan Baetens’
(2003) method, in which

[r]eading is always an act of dismembering, or
tearing open in search of hidden meanings. ‘Close’
as in ‘close reading’ has come to mean ‘in an
attentive manner’, but in the expression ‘to pay
close attention’, for example, we still have some
nearness [...] when it comes to close reading the
text is never trusted at face value, but it is torn to
pieces and reconstituted by a reader who is always

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25 It is in relation to the experience of the digital texts that the concept of the
“implied reader” or “the prestructuring of the potential meaning by the text, and
the reader’s actualization of this potential through the reading process” (Iser xii)
backgrounds this study. However, I contend that the implied reader as a textual
construct cannot be used to identify specific sets of response-inviting structures
built into the interactive potentials of the digital works. This failure is due to the
dominance of the ergodic in the texts. I therefore argue for the relevancy of
space for interaction and narrative.
at the same time a demolisher and a constructor.

(9-10)

The dissecting or demolishing and (re)constructing emphasize the connections between the material configuration of the text and the meanings that emerge from interaction with it. Any meaningful recombination of the text relies upon how it should be “never trusted at face value,” in a reading that is interpretive interaction (where the reader must “pay close attention”) as physical process (“torn to pieces”) (Van Looy and Baetens 9-10).

In the present study, interpretation includes the presence of the reader within the spatial structures of the digital work, searching for concealed meanings. This search opens up the digital text as a space, and demands navigation and rearrangement. In the spatial configuration that guides both, I argue the material elements assert a dramatic influence over interpretation.26 In my analysis, I equate the material elements with “a pre-digital historical conception of close reading and the sort of materially-conscious hermeneutics that digital textuality requires” (Ciccoricco, Materialities n. pag.). For this reason the following close readings pay equal attention to the formal and material factors within the spatial dimensions of the digital works.

The balance in close reading between the material factors and spatial dimensions that define interaction with the digital works can be approached with topology. The following close readings depend upon the “close analysis of the individual components that comprise its topology” (Ciccoricco, Materialities n. pag.). The focus on individual components is consistent with the “move away from the dominant paradigm of a textual topography, and instead speak more accurately of

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26 The need for spatial exploration reflects the call by Espen Aarseth (Allegories 163), referred to in the introduction, of a need to evaluate the spatial as a dimension of meaning for interactive media.
textual topology” (Ciccoricco, Materialities n. pag.). The topological equivalent in the works examined here is space, either conceptualized in representations or as “lived through in its associated images and symbols” or realized as interaction (Lefebvre 39). In relation to the digital works, the narrative role of objects in Façade and Egypt and the referencing of the Rodney King beating video in Last Meal Requested are examples of representational space, as associated images and symbols that are meaningful. In other words, interaction and interpretation can combine in close reading the digital works on the level of topology.

Textual topology provides a foundation in close reading upon “the material form of network narrative” (Ciccoricco, Reading Network Fiction 57). Hanjo Bresseme further refines such a textual topology according to how “structure, texts, images and sounds can be mapped onto and inserted into each other […]. The various media are no longer framed in and thus framed off from each other” (34). This interdependent framing results in an interactive space where

[t]he hypermedia topology is characterized by a conflation of and oscillation between surface and depth, because although the textual traces always appear superficially on the user’s screen [...], hypermedial space consists of a multiplicity of levels and layers that are successively folded onto this surface that is, furthermore, used for both reading and writing purposes that thus conflates not only the surface and depths but also the active and

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27 Topography “originally meant the creation of a metaphorical equivalent in words of a landscape. Then, by another transfer, it came to mean representation of a landscape according to the conventional signs of some system of mapping. Finally, by a third transfer, the names of the map were carried over to name what is mapped” (Miller 3-4). Thus topography represents space, but it is not representational, with the three examples cited by Miller (i.e. metaphorical equivalent, representation and the name of what is mapped) being examples of symbols standing-in for a physical entity.
the passive onto one spatial plane. (Bresseme 34-35)

A similar movement between surface and depth is realized in the perspective, focalization and monumentality of the digital works. This conception of the hypermedial is profoundly material in its “multiplicity of levels and layers that are successively folded” (Bresseme 35).\textsuperscript{28} These levels and layers are combined as “surface and depths but also the active and the passive onto one spatial plane” (Bresseme 35). However, the interpretation of the topological on the symbolic level is problematic, based on the signifying attributes of the material alone.

A topological approach to the digital works, “must consider the formal, material, and discursive elements of each work as at once distinct and inseparable, each integrated toward the production of meaning” (Ciccoricco, Materialities n. pag.). My three-part analysis initially mirrors Ciccoricco’s structure, firstly in the representation of formal elements in the prefaces as prescriptive guides and authorial instructions (chapter three). Secondly, the material is in the design of the works, where it is meaningful and guides interaction (chapter four). But it is the third stage of the discursive in Ciccoricco’s approach that is altered in my analysis. This change is due to how discourse cannot explain the representational as an element of the ergodic. The representation of space can be understood as topological, but the potential for the creation of meaning through interaction, as a component of the ergodic, does not necessarily include discourse. This is a lack in topology that can be contrasted with the spatial, in how “signifying processes (a signifying practice) occur in a space which cannot

\textsuperscript{28} Bresseme references the “immateriality of the texts” (35), but this seems to contradict the concept of hypermedial space characterized by surface, depth, levels and layers.
be reduced either to an everyday discourse or to a literary language of texts” (Lefebvre 136). The ergodic follows a similar logic, as it cannot be reduced to either discourse or text, responding equally to functional and representational elements. It is my contention that spatial practice unifies the formal, material, and discursive elements of each work and can explain how these elements are combined and responses are evoked in reception. It is spatial practice that results from both addressivity (which I take up in chapter five) and interaction (dealt with throughout my analysis).

My examination of the influence of space upon interaction adapts Henri Lefebvre’s analytical model of spatial production. Within this model, space “rejoins the freest creative process there is – the signifying process” (Lefebvre 137). Rather than counteracting the signifying process in the digital works, space rejoins it by confining and directing interactive responses that rely on interpretation. By this I mean that interpretation of signification is qualified by the spatial. Space as a supplementary signifying process “lies in the consideration of space as neither a ‘subject’ nor an object but is a social reality of relations and forms that include possibilities and potentials for social interaction” (Zieleniec 76-77). In my analysis such relations and forms of space define the potentials for interaction as meaningful in the digital works. Interaction is thus defined by space according to how it links "the distance between design and use, or structure and performance” (Simanowski 17). I contend that this distance operates as part of the representational field, which structures interaction and results in interpretation, navigation and responses. All interaction

\[29\] Space as the mediator of social relations acknowledges its role as “the dominant cognitive category and [that it] has become the central mode for cultural perception” (Jakubowski 18).

\[30\] Hyperlinking joins sections of the digital work and thus structures both navigation and the ordering of narrative events.
with the digital works is thus grounded in codified processes within form, design and addressivity. I align interaction with Lefebvre’s “spatial practice” (33), with the digital works as sites of interaction and as meaningful spatial systems that can be understood as texts.

The initial definition of a text used in my introduction, i.e. as “a document composed of both semantical and graphical signifying parts” (McGann 138), points initially to the semantic elements – in McGann’s terms – of the digital works as language-based, composed of audio and written text. But by arguing for the dominance of the spatial in the digital works, focus is shifted from the purely semantic to the “graphical signifying parts” and by extension, spatial practice. The graphical parts are what comprise the visual structuring of spatial representation in the works (e.g. a room, a city, a composition of images). This extension is grounded in the reception of the digital works as “a processual performance across codes and circuitry within the computer and in response to interactions from the reader” (Pressman n. pag.). The interaction from the reader is the primary site of signification within spatial practice in relation to the digital works.

I argue that the “circuitry within the computer” is not what is read (interpreted and interacted with); rather, it is the products of circuitry that are translated into humanly comprehensible and representational texts. I contend that it is the ergodic that provides linkages between “codes and circuitry within the computer” and the “interactions from the reader”, which ultimately “creates meaning through the interaction of algorithms” (Bogost, Persuasive Games 4). Thus by approaching the digital works via the spatial, the layers of the work (i.e. codes and circuitry and programming) are experienced through a humanly comprehensible and representational system that is interactive. The point of
Ciccoricco’s argument – that "digital media do not dispossess us of an interpretive reading practice" (n. pag.) – adds to this approach, grounded in the control of the spatial over the formation of narrative through interaction. I explain this control with Lefebvre’s three congruent spatial categories of the i) representation of space, ii) representational space, which are realized together as iii) spatial practice.

**The Representation of Space in the Digital Works**

The representation of space in the digital works is as “conceptualized space”, identifiable with “what is lived and what is perceived [and] with what is conceived”, which tend “towards a system of verbal (and therefore intellectually worked out) signs” (Lefebvre 38-39). These represented spaces operate in the digital works through instructions, measurements, plans and diagrams, as structured and symbolic orders. These orders are expressed in maps, tables and charts, still and video images, spatial metaphors and descriptions. As systems of signs these represented spaces “have a practical impact, that they intervene in and modify spatial textures which are informed by effective knowledge and ideology” (Lefebvre 42). I focus my analysis of representation of space in the prefaces and design of the digital works.

In the following analysis I examine how represented spaces in the digital works include gender and class as examples of knowledge and ideology. Both the prefaces and design to the digital works portray “a particular conception of space” (Lefebvre 188). These representations of space reveal details in measured quantities (e.g. distances, perspectives, number), which include the potentials for “intervention and control of the structure and design” (Zieleniec 78).

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31 This intervention defines the interactive or ergodic components of the digital works and constitutes the combining of “the factual and the fictional world”
in the representation of space in design are perspective, the monumental and focalization in the digital works. Each of these is codified as a spatial system for addressing and responding to the interactive presence of the reader. This codification begins in the prefaces to the digital works.

Address and the Spatial in the Prefaces

The prefaces to the digital works adopt two modes of address, which produce two perspectives in relation to interaction. This address is separate from the addressivity experienced later in the digital texts themselves, which I take up in chapter five. The first mode of address in the prefaces I attribute to the authorial voice, or the commentary and legitimation by the author. In the digital works, the authorial voice is present in the help sections, the introductions and the “Behind the Façade” document. The second mode of address in the prefaces is defined by the transgression of the traditional boundary between the narrative world of the literary work and the reader. As a result of introduction of the spaces to the works in the prefaces, the reader is introduced to characters, events and objects as a series of interactive potentials. The narrative world mixing with the world of the reader creates metalepsis and remediation, either by drawing the reader inwards or by outwardly contaminating the world of the reader across the paratextual space of the prefaces. In both metalepsis and remediation the representation of space directs and guides reader attention to the works. The dominant spatial mode in the prefaces is the representation of space, which as I explain in this chapter, describes the representational spaces of the texts via remediation.

(Schäfer 150). By representing the space of the work, it is codified and represents a fixed external quantity (i.e. factual) both in the prefaces and in design. At the same time this coded space (i.e. measured and represented) provides the possibilities for textual interventions as reader interaction (e.g. such as following a narrator through the text).
The authorial voice in the prefaces, in a sense that is “monitory” (Genette 1997 197), introduces the reader to the spaces of the works through the proper interaction with the objects and spaces. The reader is introduced to this interaction with the digital works via spatial elements represented in the prefaces. These elements are the objects, characters and actions removed from narrative contexts and placed within the paratextual conditioning of the prefaces. These objects, characters and actions in the prefaces refer forward to narrative elements, structure and goals as approaching experiences for the reader. It is through the spatial features introduced in the prefaces that the reader is promised a degree of agency grounded in (interactive) effect upon narrative, particularly in relation to goals.

The objects and characters that are introduced in the prefaces are elements from narrative. This introduction to the spatial and its elements in the prefaces is consistent with the idea that “the original authorial preface has as its chief function to ensure that the text is read properly” (Genette 1997 197). In the prefaces to the digital texts, reading “properly” is linked to the emphasized points (objects, characters and goals) nominated by the author as a means for monitoring reader agency. These are emphasized points that are introduced as monumental in the prefaces to the digital works, with spatial significance that controls narrative outcomes. The prefaces prescribe compliance with these emphasized objects, characters, goals and the associated rules as the criteria for reading the work “properly.” These elements draw the reader into a controlled engagement with the spaces of the works.

The prefaces represent space in the works, where meaningful elements (symbols, objects, language and audiovisual content) must be interacted with in certain ways. According to the prefaces, narrative is the product of the refined
interaction with the features of these spaces. In the prefaces, the source of meaning is premised upon reader compliance with the spatial dimensions of the works. In presenting this model of interaction and narrative I question how the resulting feedback loops “enables the text to modify itself, so that the reader will encounter different sequences of signs during different reading sessions” (Ryan 2001 206). I contend that the text is not modifying “itself” but is rather responding to the controlled inputs of the reader. In the case of the prefaces, the authorial voice instructs the reader in how the text “modifies itself” in response to inputs and actions. Reader compliance with this authoritarian voice is articulated in the prefaces via tropes and visual modes connected to the spatial and grounded in the narrative elements of the works. In arguing for the dominance of the spatial and its establishment in the prefaces, my analysis examines how the prefaces qualify reader interaction as the exercise of agency or “the satisfying power to take meaningful action and seeing the results of our choices” (Murray 126). I assert the prefaces use spatial codes and strategies to control the action of readers. From the prefaces space is represented in the digital works according to the interactive potentials of narrative and design, which I explore in examples of metalepsis.

The Representation of Space and Metalepsis

Metalepsis is “a paradoxical contamination between the world of the telling and the world of the told” (Pier n. pag.), which is present in the digital works.32 The contamination between the worlds of the telling and the told emerges in the prefaces in the representation of objects, characters and events related to or

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32 Genette explains this shift in how “[t]he transition from one narrative level to another can in principle be achieved only by the narrating, the act that consists precisely of introducing into one situation, by means of a discourse, the knowledge of another situation. Any other form of transit is, if not always impossible, at any rate always transgressive” (Genette, Voice 181).
adapted from narrative. I explain this contamination and its effect on interaction using the presence of “Dr. Bomar Felt” in the preface to *Dreamaphage*, the name spell in *Egypt* and the instruction on how “you” can save the marriage of Trip and Grace in the prefaces to *Façade*. Each of these can be explained according to metalepsis, as a “fundamentally disruptive effect on the fabric of narrative, on the possibilities for achieving coherent readings, and on the very distinction between fiction and reality” (Malina 1). I argue that the prefaces include elements from narrative (e.g. a character or an object), which disrupts the fabric of narrative by placing the reader in an interactive relationship to characters, places or events by sharing the same time and space. This disruption introduces the reader to the spaces of the digital works as interactive and experienced.33 From this introduction in the prefaces, metalepsis is developed further in the design of the digital works through the inclusion of the reader in representations of space.

Specifically, the representation of space in the prefaces prepares the reader for the “interactional metalepsis” of design, which “involves mostly digital and interactive media that require the user’s physical interaction with its hardware and software” (Ensslin, *Diegetic Exposure* 11). The metalepsis of the digital works examined here can be divided into ascending and descending, whereby the experiential world of the reader is situated at the top of diegesis. Elements from narrative cross over into the world of the reader in ascending metalepsis, or “ascending across narrative levels, when a character moves out of a fictional world and enters the real world, potentially encountering its authors or readers” (Kukkonen 3). On the

33 In this way metalepsis is setting the conditions for perspective as part of interaction. By introducing characters or situations in the prefaces, using virtual objects or direct dialogue with characters an early form of perspective is established that influences subsequent interaction.
other hand, descending metalepsis is “when authors or narrators enter the fictional world” (Kukkonen 3). I argue that metalepsis mainly orientates the reader for ascending metalepsis in the prefaces to the digital works. In the contexts of the prefaces, interaction with elements and objects from narrative become part of the world of the reader. In design a variation on descending metalepsis is manifest, where the reader enters the spaces of the digital works and is positioned in relation to narrative. The interactional metalepsis that accompanies the design is described here in relation to the virtual books of Dreamaphage, in navigating the structure of Egypt and its correspondences with the River Nile, and in the features of the apartment of Façade.

All forms of narrative metalepsis are transgressive in the movement across narrative levels between what is told and the telling of it. This movement results in a shattering of the fourth wall, as in when a character speaks directly to an audience member, or when the frame of the story ruptures with a narrative reference to the medium of delivery. Such metalepsis “constructs modes of storytelling in which in some situations narrator, internal narrative, and external audience can meet face to face on the same narrative level. Thus by manipulating the recipient’s perception, metalepsis ties narration and audience closer together” (Lorenz 118). I argue that the metalepsis in the digital works results in the manipulation of reader perception as a foundational component for interaction with the spaces of the digital works, and in doing so interaction

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34 For a detailed account of ascending and descending metalepsis in interactional metalepsis see Ensslin (Diegetic Exposure). Kukkonen suggests further reading related to these forms of metalepsis in the same passage, as “Pier (2005) and also McHale (1987) who speaks of entanglements of the hierarchy of narrative levels” (3). The entanglement of narrative levels is a direct reference to the origins of metalepsis as a critical concept in Genette’s work mentioned above (Genette, Voice 181).
transgresses the traditional levels of narrative in relation to characterization, addressivity and perspective.

The transgression of narrative levels in metalepsis guides the reader in relation to characterization, addressivity and perspective as precursors to interaction. By constructing such a space in which narrative elements and an audience can meet on the same level, the digital works set up perspectives, emphasize important (monumental) elements in the ergodic and establish modes of address for narrative. As I point out in my analysis, such establishment of the spatial boundaries of narrative in the digital works through transgressing narrative levels sets up perspectives for interaction. This preparation for interaction begins in the prefaces and is continued in the design of the works. The reader is invited to participate directly in the structures of narrative as a result of the prefaces reaching out beyond the perimeters of representational space.

Finally, if space is the dominant representative form in the digital works, then the third dimension to Lefebvre’s model becomes relevant for the digital works. Spatial practice operates according to "a dialectical interaction between signifying and signified elements, as some signifiers reached the exhaustion point of their formalism, and some signified elements, with their own peculiar violence, infiltrated the realm of signifiers" (Lefebvre 146). The collapse of the barriers between the signifier and the signified in spatial practice is reflected in interaction with the digital works. Metalepsis is a good example of this collapse. The reader experiences the digital works as material forms expressed through the spatial and not just in the symbolic chain of the signifier. The reader experiences the digital works as spatial and material, which results in the intersection of signifiers with the signified, or that “leads from products to productive activity” (Lefebvre 26). In other words, the reader does not just consume the digital text, but the space from which
it is experienced forces interaction and thus production, in this case of narrative events, characters, and settings. However, the interaction with signifiers in the spatial (or in other words “graphical signifying parts” McGann 138) does not explain how narrative relates to the ergodic through reader interaction. Rather it is the dialectical nature of space as I have explained here, according to Lefebvre in terms of the representational, which clarifies how interaction with ergodic digital works produces narrative. The next important part to this theoretical structure is representational space, which completes the interactive and representative potentials of the digital works.

*Representational Space*

Lefebvre explains representational space ("espaces de représentation") as space that is

> [d]irectly lived through its associated images and symbols, and hence [is] the space of ‘inhabitants’ and ‘users’ [...] It overlays physical space, making symbolic use of its objects. Thus representational spaces may be said, though again with certain exceptions, to tend towards more or less coherent systems of non-verbal symbols and signs. (Lefebvre 39)\(^{35}\)

The space that is lived through according to its “images and symbols” is a space of communication, ritual, social/spatial practice, and in the case of the digital works discussed here; literature. As I demonstrate throughout the following analysis, the spaces of the digital works operate according to their images, signs and symbols. Many of these are grounded in the particular cultural assumptions that the digital texts represent (e.g. those signifiers that comprise the theme of marriage as a

\(^{35}\) My translation of Lefebvre’s terminology comes from Nicolson-Smith’s 1991 English translation (see bibliography), which translates *Espaces de la representations* - spaces of representation, as representational spaces.
domestic institution in *Façade*). Language is also of course part of this space, which “overlays physical space, making symbolic use of its objects” (Lefebvre 39). In my analysis I show how language in the contexts provided by such representational space in the digital texts is inseparable from its objects, images, signs and symbols and from the ergodic components that drive interaction with them.

The representational spaces in the digital works include many non-verbal symbols and signs. Such representational dimensions of the texts as perspective, monumentality and addressivity are composed of images, signs and symbols that define reader interaction. The experience of space in the digital works includes these images, symbols and signs that are “lived through” as “suggestive markings” according to how they “trigger reactions” and “create their own interpretations” (Nitsche 44). Suggestive markings with the potential for interpretation also include virtual objects within the representational spaces of the digital works. These are objects that can be manipulated and interacted with by the reader. Interpretation thus becomes a part of spatial practice, as objects are made meaningful within interaction. Such symbolic use of objects is common to each of the digital works. I anchor the resulting interpretation of virtual objects to the concept of the iconic sign.

**The Iconic and the Symbolic in the Digital Works**

I argue that signs in the digital works comply with the semiotic trichotomy put forward by Charles S. Peirce. The first mode within the trichotomy is the sign as icon, which is meaningful according to how it is “partaking in the character of the object,”

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36 In relation to the virtual objects as signs, I adopt the idea that signs, “are particular, material things; and as we have seen, any item of nature, technology or consumption can become a sign, acquiring in the process a meaning that goes beyond its given particularity” (Bakhtin, *Reader* 51).
which is centered on resemblance or likeness. The second mode is as index, where the sign operates “in its individual existence connected with the individual object” or in other words the sign is related to its object by connection (e.g. smoke as signifying fire). Finally, the sign may also operate as a symbol, “with approximate certainty that it will be interpreted as denoting the object, in consequence of habit” (Peirce, *Philosophy of Mathematics* 82). The symbolic operates in the spaces of the digital works according to habit, or by “denot[ing] the objects that they do by virtue only of there being a habit that associates their signification with them” (Peirce, *Prolegomena* 429). I go on to point out these learned elements in the non-verbal symbolic features of the digital texts. The objects, images and characters in the spaces of the works operate as iconic and symbolic signs. The reader recognizes these signs as evoking both an object and an interpretant. The iconic sign in the spaces of the digital works, “partakes of some more or less overt character of its object” (Peirce, *Collected Papers* 4 531). Here the virtual object of the digital work operates as “a sign that the likeness of to its object is aided by conventional rules (See Peirce, *Collected Papers* 1 179). As I explain in the following chapter, the conventional rules associated with the iconic sign in the digital works are grounded in culture, social meaning and the production of space.

The virtual objects in the digital works can be understood as iconic signs in resembling the “object” to which Peirce refers, which can be understood with the help of the example of the centaur. A statue of a centaur does not resemble a centaur outside itself as there is no referent, but rather it partakes of the character assigned to the centaur by the conventional rules

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37 Peirce considered three interpretants; immediate, dynamical, and final. It is the second I refer to here, whereby the “Dynamical Interpretant consists in [the] direct effect actually produced by a Sign upon an Interpreter of it” (Peirce, *Semeiotic and Significs* 109).
associated with it (see Peirce, *Collected Papers* 5 50). In this sense “an icon is a sign fit to be used as such because it possesses the quality signified” (Peirce, *New Elements* 2 307). The statue of the centaur possesses sufficient degrees of ‘centaur-ness’ in order for it to be recognized as being a centaur. The quality signified is produced by the specific “relation of likeness”, which “can only refer to single qualities, never to distinct concepts, it is impossible to identify the object which the icon stands for without additional information” (Grote and Linz 24). Likewise the objects in the digital works possess a “relation of likeness.” As I go on to demonstrate in my analysis, an object is made meaningful by the space in which it is located in the works and this meaning is a product of the representational status of that space.

Within the digital works the iconic can be understood to reflect Aki Jävinen’s “three reference axis [sic] of simulation” (n. pag.), as system, representation and interface. The iconic operates on the axis of representation as “the sign layer that represents the system with (animated) images and sounds” (Jävinen n. pag.). In design, this sign layer is dominated by the iconic, but is experienced by the reader as simulated and interactive. By this I mean the reader must recognize the sign layer as a system, as a space made up of objects and features (links, images, audio and text) that is both meaningful and responsive. As a result, the sign transgresses the narrative boundary between the diegesis of the told, by breaking into the experience of the work as interactional metalepsis. In this breakthrough remediated objects, such as the virtual books in *Dreamaphage*, take on the simulated qualities associated with their iconic referent based on likeness.

The symbolic is significant for both interaction and narrative in the digital works. Based on this connection, the spatial can be used to explain how the virtual objects and
characters can be interpreted in interaction and narrative. This is perhaps easier to understand if one considers how the sign has been explained in digital texts already. In hypertext “the signification of a sign is the unique result of our action on it” (Gervais n. pag.). Thus a sign as a symbol is dependent upon action, which includes both interpretations and physical interaction. Such a representational role for the symbolic is largely ignored in the identification of simulation as “the hermeneutic ‘Other’ of narratives; the alternative mode of discourse, bottom up and emergent where stories are top-down and preplanned. In simulations knowledge and experience is [sic] created by the player’s actions and strategies, rather than recreated by a writer or moviemaker” (Aarseth, *Genre Trouble* 52). Simulation experienced through perspective as a dimension of interaction demonstrates how dependent it is on the symbolic. Simulation as improvised and “created by the player’s actions and strategies” ignores the complexities of interactive narrative systems, such as the works examined in this study.

I argue that interaction has a symbolic dimension, and that its actions and strategies involve interpretation. I contend interaction as a precursor to narrative further problematizes the argument that “stories are top-down and preplanned” (Aarseth, *Genre Trouble* 52). It is the interpretation of iconic and symbolic signifiers in the spaces of the digital works that results in narratives. The spaces of these works are introduced in their prefaces, as a top-down element, but these prescribe interaction in spaces, and it is only by the organized interaction with the spatial dimensions that results in a story. Not as a strict top-down model, but in a co-creation and inhabitation of the spaces. The remainder of this chapter and the majority of the analysis that follows are defined by an examination of these spaces and how they influence interaction as a product of the ergodic. I now provide a detailed theoretical background for each of the main
critical tools I use in this analysis. These are monumentality, address and perspective, which define the structure of the spaces of the digital works as both narrative-rich and interactive.

**Monumentality**
Both representational space and representations of space in the digital works are conditioned by monumentality. This monumentality is composed of “the strong points, nexuses or anchors” (Lefebvre 222) within the spaces, which I identify by the forms of emphasis within the digital texts. This monumentality results in “a horizon of meaning: a specific or indefinite multiplicity of meanings, a shifting hierarchy in which now one, now another meaning comes momentarily to the fore, by means of — and for the sake of — a particular action” (Lefebvre 222). In the works of this study the monumental governs representation according to how the “digital work has the capacity to explore space as a potentially semantic element and to engage with depth and surface in a more explicit and complex way” (Schaffer and Roberts 40). It is the “potentially semantic” that makes space defined by the monumental a guiding force for interaction and meaning in the digital works. Monumentality illustrates how reader “activity in space is restricted by that space; space ‘decides’ what activity may occur, but even this ‘decision’ has limits placed upon it” (Lefebvre 143). In short, the control asserted over interaction by space is determined by the monumental structuring of emphases in the works.

The emphases within the monumental in the digital works are created through repetition, scale, and volume (by dimension - size, scale - and by degree – such as sound levels or

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38 I give a detailed account of the methodology that guides these tools in the following chapter.
use of color). In relation to these features, I argue that a similar principle of the monumental as described by Lefebvre restrictively codifies representational space in the reading of the digital works. For example, in the digital works, the distance between emphasized points and the scale that results within spaces affects interaction and, as a result, the pace and connection of events. Such features exist in the digital works via culturally derived conceptions of “a generally accepted Power and a generally accepted Wisdom” (Lefebvre 220). The dominance of stereotypical features in the depiction of spaces, such as the medical charts in Dreamaphage as representing medical authority, is an example of monumentality as an organizing principle for interaction with space. These concepts are present through the referencing of pre-existing narratives in the digital works.

Space in the digital works is determined by monumentality according to how the latter can be “tied to the relations of production and to the ‘order’ which those relations impose, and hence to knowledge, to signs, to codes, and to ‘frontal’ relations” (Lefebvre 33). The network of meaning that emerges from monumentality in the imposition of order over spatial interaction is located in the design of the digital works. In this sense, the signs and codes that operate in space form a symbolic order in the digital works. Interaction is subject to these codes, which compose “the locus of communication by means of signs, as the locus of separation and the milieu of prohibitions,” (Lefebvre 134-135). The interpretive responses to these signs inevitably call upon a separation, an interpretive distance, and (as a result) a set of prohibitions, between the reader and the work. The prohibitions that guide reading and that form narrative according to space are controlled according to the emphases and positioning that results in interaction from
monumentality.\textsuperscript{39} Thus, monumentality contributes to the spaces as a codified system of representation that the reader navigates in the digital works.

Monumentality functions in the digital works according to emphasized features and the roles that are assigned to these features in interaction. Lefebvre describes a similar system of monumentality in architectural and urban contexts, citing palaces (146), and “temple, stadium or agora” (159), explaining what these mean to the inhabitants in the occupation and use of a space. The inhabitants of the space rely on what Lefebvre terms a “recognition effect” (220). At the same time, Lefebvre warns against the total identification of the monument with the symbolic (223-224), arguing that it is not interpretation alone that defines the meaning of the monumental within spaces, but interaction or use as spatial practice.\textsuperscript{40} In this way, monumentality comes to be organizational on a symbolic basis, but not symbolic in the sense of signs. The result of the recognition effect is a spatial structuring of social and cultural representations. These representations are not read in the sense of semiotic interpretations grounded in a consensus of symbols. Rather, the shifting horizon of meaning references generally accepted ideas and concepts that are produced by, and in turn produce, social consciousness. All interaction with spaces in the digital works that are centered on monumental points is subject

\textsuperscript{39} Interpretation, linguistic or spatial, always includes the possibility for misreading. Interpretation is structured toward multiplicity and the digital works are no different. I do not need to account for my readings as preeminently correct, merely demonstrate how narrative can be read and how the digital works attempt to guide these readings.

\textsuperscript{38} The monumental results in practice in relation to the digital texts. This practice cannot be reduced to just signification, as Lefebvre argues, “I am not saying that the monument is not the outcome of a signifying practice, or of a particular way of proposing a meaning, but merely that it can be reduced neither to a language or discourse nor to the categories and concepts developed for the study of language” (Lefebvre 221-222). I discuss spatial practice in terms of interaction with the digital texts.
to similarly determined values expressed and referenced in those points.

The monumental is part of the representational interface of the digital works. In other words, the emphasized points are meaningful but also prohibit certain forms of interaction within the spatial. They prohibit according to how monumental space “is determined by what may take place there, and consequently by what may not take place there (prescribed/proscribed, scene/obscene)” (Lefebvre 224). On the level of the monumental, binary polarities define interaction with the spatial as a representative system, which of course contribute to meaning (see Marshall n. pag.). Likewise, prohibitions created by the monumental become part of interaction. If, for example, a repeated image is used as a link between sections in one of the digital works (as is the case in Last Meal Requested and Egypt), associations emerge between that image and navigation based on the set sequence of opening the link/s as signified by the repeated image. Likewise, the emphases placed upon particular objects in the space, such as the couch in Façade, create a space defined by that monumental point, within which the reader interacts with elements according to the prohibitions organized around it. As a result, monumentality makes the spatial a major element within the interactive interface of representation. Narrative events and outcomes are influenced by the emphasis on a defining monumental point.

While monumentality is part of the representation of space in the organization of recognizable points, at the same time the monument, the emphasized node that prohibits and enables, is representational. In this sense the monument is “neither an object nor an aggregation of diverse objects, even though its ‘objectality’, its position as a social object, is recalled at every moment, perhaps by the brutality of the materials or masses involved, perhaps, on the contrary, by their gentle
qualities” (Lefebvre 223-224). In the digital works the monumental point is an example of the “potentially semantic element” (Schaffer and Roberts 40) and “graphical signifying parts” (McGann 138) of the digital works. By the potential and semantic dimensions of the monumental I refer to how such a feature can become a meaningful part of space in the works. In the digital works an emphasized point or the features made significant through interaction (such as the linked image repeated) assign such meanings to the monumental. The associated symbolic dimensions of monumentality regulate the use of objects in representational spaces by influencing how inhabitants interact with the features of the space and with each other.

Monumentality represents the systematization of prohibitions in the digital works as related to interaction and narrative outcomes. The prohibitions that emerge from the emphases on the interlinked points guide the reader according to a “supercoding [...] that tends towards the all embracing presence of a totality” (Lefebvre 222). Such prohibitions in the digital works include the linking of some objects or words over others and the visual emphasis of dimension and size that accentuate the role of a specific visual element in narrative development. This emphasis begins in the prefaces, such as how perspective is determined with the particular features pointed out for the reader. The introduction of a goal in the prefaces of Egypt (Find the name spell and the search for the silver coffin), Dreamaphage (the search for a cure) and Façade (resolution of marital conflict) are examples I go on to discuss of how emphasis is established by perspective. Perspective is then carried over into design, where monumental techniques such as repetition and scale are used to bring emphases upon particular features of the digital text. These emphasized points include links, audio samples, visual components (e.g. images, boarders,
icons, video loops etc.) and objects. Finally the emphasis placed upon spatial features that represent and reference stereotypical images of gender in Façade and Egypt is developed around the monumental points in order to build consistency between navigation and the symbolic dimensions of narrative. Spoken and written references to virtual objects in all the works discussed in this study are an example of the coherency monumentality brings to narrative through interaction. Much of this coherency rests upon the role of perspective.

**Perspective and Interaction**

Perspective in the digital works is the spatial and temporal point of view experienced through interaction. Traditional perspective is the ‘seeing through’ (Latin: *perspicere*, to see through) of visual planes in the representation of depth. Through the references to and the representation of space, a perspective is constructed that localizes the experience of the text via an aware subject. The most famous example of perspective as a codified spatial system is perhaps early Renaissance quattrocento in architecture, painting and drawing. Leon Battista Alberti (1478-1535) encoded perspective according to a spatial logic that “was ultimately linguistic (descending from Latin grammar and syntax, which operated according to a simple set of rules for combinations and exceptions)” (Shane 85). This relevance of language to visual perspective remains in the interactive spaces of the digital works. Viewer immersion is coded in quattrocento perspective, whereby the elements of the work (e.g. a central vanishing point) are arranged around the presence of the viewer in the dimensions of the image according to a diminishing size.

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41 The impact of perspective on the meaning of space is suggested by John Berger when he writes “The convention of perspective, which is unique to European art and which was first established in the early Renaissance, centers everything on the eye of the beholder,” to the degree whereby “the visible world is arranged for the spectator as the universe was once thought to be arranged for God” (Berger 16).
experienced through depth, foreshortening and intersecting planes. The field of vision in the quattrocento image thus forms around the viewer, in the sense of including her in the view. A similar strategy for including the viewer/reader in the spaces of the works is employed in the digital works. I argue that the spatial in the digital works includes a perspective that functions as an interactive component of narrative. This perspective includes a depth that makes “the near and far possible as distinguishable but inseparable parameters; it is also what serves to connect them as aspects of the same field” (Casey 66). This field is the space of narrative, which I return to in the following chapter.

In the digital works, perspective is codified according to one or more of the following four spatial planes:

(i) The first-person perspective of the embodied avatar;
(ii) The first-person perspective of the viewing subject (occupying a point in the space of narrative time and place as a witness or participant – distinguished by agency);
(iii) The second-person perspective and
(iv) The third-person perspective of the narrating character.

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42 Lefebvre identifies how quattrocento moved visual perspective “from the cryptic to the decrypted. This was not the art of the visible per se, however. Knowledge was still knowledge. Decrypting in this sense had little to do with the deciphering of a text. Emergence from obscurity was an irreversible proceeding, and what emerged did so not as a sign but ‘in person’” (267). The use of perspective in the digital works has a similar effect, with it operating in design to set up the texts as addressive. I discuss this in detail in chapter five.

43 Depth-based perspective as a component of narrative has similarities with the system used in modern film narratives; however its stylistic elements are different; such as the infinite depth of focus that is standard in three-dimensional virtual spaces. The three-quarter over the shoulder shot of film is not present in the narrative of 3D spaces either, with the perspectives I outline here; first, second and third person taking its place as the avatar negotiates the representational space.
These are spatial and not just visual perspectives, which control the interaction that results in narrative in the digital works. First, second and third person perspectives are achieved in conjunction with narrative focalization, which I describe below. The first-person perspective of the embodied avatar anchors point of view to an avatar, or a virtual body in a three-dimensional graphic environment. This perspective most often occurs when “the camera takes the position of the avatar's own eyes, and is fixed with respect to the avatar. Therefore the player does not usually see the avatar’s body, though the game may display handheld weapons, if any, and occasionally the avatar’s hands” (Adams 412). This first-person perspective exists in Façade and Dreamaphage when navigation, view and the direct manipulate virtual objects (books, wine glasses, a telephone and sculptures) are from the perspective of an avatar. The visual focus present in the definition by Adams can easily be extended to include the spatial components of audio and address, as I go on to explain in the following chapters. Such a first-person perspective results in a restricted range of interactive possibilities and narrative outcomes as the temporal and spatial experience of the work is fixed to that of the avatar. The first-person avatar perspective in Façade goes as far as having the characters addressing the reader directly by name. This perspective is modified in Last Meal Requested to create the experience of a witness as a focalizing point (the topic of the next section). As I explain in chapter four and five, this witness perspective incorporates the traditional visual apparatus of a first-person quattrocento perspective with a temporal present granted by addressivity.

44 The first-person perspective of the embodied avatar is ubiquitous in the design of Façade and Dreamaphage,
In traditional narrative theory, “the point of perceptual origin hovers between two co-ordinate systems because first-person narrator and protagonist – also called the ‘narrating I’ and the ‘experiencing I,’ respectively – are separated in time and space but linked through a biographical identity relation” (Jahn 100). In the first-person avatar perspective found in the digital works, the ‘narrating I’ collapses into the perspective of simultaneous time and space of the ‘experiencing I’. In Façade and Dreamaphage this ‘experiencing I’ is the result of combinations of perspective and address. Any “biographical identity relation” present in the digital works must emerge through this first-person reader navigation, manipulation and exploration of the work as a spatial construction. The first-person perspective of the avatar is adapted in Last Meal Requested, where the temporality of addressivity (i.e. a direct address that must be answered in the present tense or the visual perspective of the witness) creates the conditions of witnessing the events depicted. In Façade, Dreamaphage and Last Meal Requested, the ‘experiencing I’ of participants and witnesses in combination with visual perspective makes the reader a part of the temporal and spatial configuration of narrative.

The final influence on perspective that emerges from the ergodic properties of the digital works is haptics (from Greek ἅπτω = 'I fasten onto, I touch'). Haptics (tactile simulation) orientates the reader in the representational spaces of the digital works. I argue that haptic elements achieve this integration as part of the avatar first-person perspective in relation to virtual objects. The interaction with objects in the texts (e.g. the virtual books of Dreamaphage and the furniture, wine glasses and artworks of Façade) establishes meanings associated with those objects within representational space. This structuring of the texts develops the dynamic described by Anne Mangen, where on the screen "haptic interaction with the
text is experienced as taking place at an indeterminate distance from the actual text, whereas when reading print text we are physically and phenomenologically (and literally) in touch with the material substrate of the text itself” (Mangen 405). The reader enters into a relationship with the representational space of the digital works through haptic interaction with objects and navigation.

I argue that the spaces that include haptics are coded and representational, within the “material substrate of the text itself” at the point of interaction (Mangen 405). Interaction is thus bound to an embodied agent within the representational space of the works as spaces that frame haptic interaction (in this case, in Dreamaphage and Façade). This experience of the haptic manipulation of virtual objects from a point within the narrative of the text is a spatial construct. Thus interaction is the experience of the representational space of narrative as an embodied presence from the simulation of touch in the digital works. In the examples I discuss in the following chapters, the virtual objects operate as semantic links within these experiences. Building on the structures of perspective, including haptics, the reader is further drawn into the representational spaces of the digital works by focalization.

_Focalization_

Focalization establishes reader perspective within the spaces of the digital works as a “perceptual or conceptual position” (Prince 32) in relation to narrative through the interconnectedness of situations and events via a mobile structured point of awareness. In this sense, focalization is “the textual representation of specific (pre)existing sensory

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45 As I stated in the introduction, I define focalization as “the perspective in terms of which the narrated situations and events are presented; the perceptual or conceptual position in terms of which they are rendered (Genette)” (Prince 32).
elements of the text’s story world as perceived and registered (recorded, represented, encoded, modeled and stored) by some mind or recording device which is a member of this world” (Margolin 42). In order for narrative to develop with the digital works, interaction must comply with the perspectives and the addressive modes that are attached to the focalizer. The focalizing agent filters events, places and actions through perspective. In keeping with this filtering affect, the focalizer is “an interpretation, a subjective content. What we see before our mind’s eye has already been interpreted. This makes room for reading of the complex structure of focalization” (Bal 1997 166).

It is important to understand that in its complex structures, the perceptions of the focalizing agent can be delivered across different forms of media in the digital works, including but not restricted to the visual. For this reason the spatial structure of the digital works is all the more consequent for understanding how focalization operates and what affect it has on interaction and narrative.

The focalizer in the digital works provides a set of structures on the same temporal and spatial plane as an addressee (see Bal 2006 14). Agency in focalization can thus be developed further according to where, (for example) the narrating character, as focalizer is in a spectrum that runs between omniscient and restricted in knowledge. Bal, in referring to Genette, highlights this difference:

46 In relation to how these works are interpreted, Hans Rustad identifies “three significant aspects in the reading process: interactivity, experience of coherence, and genre recognition” (2). Rustad’s concept of interactivity is concerned with choices, “based on semiotic considerations […] information provided [and] organization” (2). According to Rustad, the experience of coherence is how the “text protects its reader from losing control” (2). The control over coherence is central in any narrative and the role space takes in achieving this in the digital works defines this dissertation.
Genette distinguishes the narrative whose narrator is traditionally called omniscient (the narrator who knows, if not ‘everything,’ at least more than the character knows) from whose narrator knows only what a given character knows. This character, ‘from whom’ the narrative is recounted, is the ‘focalized character’. (Bal 2006 9-10)

Genette’s internal or character focalization as a means of determining literally ‘who sees’ is still relevant to the digital works. The visual preoccupation with the spatial continues in Bal’s account of focalization, defined as “the relation between the vision and that which is ‘seen’, perceived” (Bal 2007 318). However, in digital works such as Dreamaphage and Façade, the focalized character is the structure around the first-person avatar perspective as an interactive point of awareness in the representational space. In Last Meal Requested, focalization shifts between a first-person avatar spatial perspective generated by visual and auditory positioning, and the second and third person narrators in each section of the work who relate events. In Egypt, the focalized character is the first-person narrator Jeanette, who represents the point of access for the reader, revealing events in the same pace and perspective in which she herself experiences them. The role of focalization in mediating between the reader’s experience of the work as a space and its narrative is central in these examples. For this reason I go on to attach importance to focalization in the analysis of addressivity in the works.

In my own analysis I incorporate Bal’s perceptual understanding based on the visual into focalization as a spatial and experiential element of narrative structure. But in this case focalization is not just a seeing pair of eyes or experiencing body in the digital works, but is “the relation of knowledge between the narrative instance and the character” (Kuhn 263). By
interacting with the digital texts the operator can share this space between narrative instance and character. In the case of *Dreamaphage* and *Façade* it is as a character that embodies “knowledge between the narrative instance and the character.” In *Egypt*, the reader is compelled to assume the perspective of Jeanette, even down to the point of being given a clue via the screen interface as a virtual object that the narrator herself receives at the same narrative moment (a magic charm). Interaction, including interpretation, is channeled by this focalization, establishing perspective and guiding navigation through the digital work. The ergodic properties of the work operate according to the perspectives supplied by the focalizing agent. These structures shift during the course of the narrative and the reader follows this course by interacting with the text.

To summarize focalization, it is a defining part of addressivity; however, it is not a fixed point in the digital works. As Nelles points out, “focalization is always variable over the course of a narrative” (372). Nelles is just one of several scholars to further re-evaluate Genette’s original narratological concept of focalization (see Genette 1972, 1980, 1988), particularly in relation to its visual slant. Non-visual focalization is an important feature of the spaces in the digital works, with audio being equally an influence in orientating the reader. Furthermore, Nelles redefines focalization beyond the visual components of narrative to include all the senses of the reader (see Nelles 366). In this way, Nelles (1990), along with Bal (1997, 2006) and Kuhn (2009), refine Genette’s concepts to include the sort of mixed media found in the digital works of this study, and by doing so open the concept to the narratives that are applicable. As I point out in my analysis, particularly in relation to addressivity, focalization is interactive, relying on a shared visual, spatial and temporal perspective with a character. This perspective can be shared via audio in the speech of an
avatar, such as in Façade. It therefore becomes possible to identify how perspective in the digital works motivates narrative. The final component of these representational spaces I consider in the digital works is how addressivity contributes to their establishment and control of interaction.

Addressivity

Addressivity works through representational space and suggests responses that range from navigation to interpretation in Last Meal Requested, Egypt, Façade and Dreamaphage. This incitement to respond rests upon how addressivity is the tendency to direct a communicative utterance towards an intended recipient and fashion it with “the quality of turning to someone” (Bakhtin, Genres 99). While addressivity can be understood as a condition of verbal communication, in this final chapter I argue that the representational space as symbolic and therefore communicative is part of the digital works as utterances. This space includes objects, (including images and characters), the characters that populate it and the focalization that directs the experience of it by the reader. Furthermore, the representational status of spaces in the digital works anticipates answers not in kind (i.e. the word for word of Bakhtin’s explanation). 47 The utterance in this context reflects the multimedia and spatial dimensions of the digital works as literary (and therefore complex) communicative acts that can be classified as “secondary genres” (Bakhtin, Genres 62). 48 The

47 While Bakhtin focuses on verbal communication, in particular the novel, his work acknowledges that, “Interpretive routes connected with the text include both verbal and nonverbal signs. Consequently, they know no boundaries in terms of types of signs or historical-natural languages that may eventually be involved in the interpretive process” (Petrilli 228). This sense of expansive textuality, in its potential for blurring between representation and the performance, suits the forms of the digital works. (For an account of the multimedial dimensions of Bakhtin work see Folch-Serra 228-231).

48 Secondary or complex speech genres include “novels, dramas, all kinds of scientific research, major genres of commentary” (Bakhtin, Genres 62) which arise in “more complex and comparatively highly developed and organized
features that comprise these secondary genres include the non-verbal symbols and signs of representational space which stand-in for their referents.49 Responding to the works is the logical extension of the addressivity they embody, whether to an interactive object that links narrative elements (e.g. the telephone call from a parent in *Façade* and social class) or a visual perspective of a witness to a racial attack (e.g. the lynching postcards and video of the beating of Rodney King in *Last Meal Requested*).

By approaching the digital works as textual utterances, it becomes possible to see in each that which is akin to “the influence of the anticipated response, dialogic echoes from others’ preceding utterances, faint traces of changes of speech subjects that have furrowed the utterance from within” (Bakhtin, *Genres* 99). I equate such ‘furrows’ within the utterance with the possibilities for interpretation and responses both to representation and interaction. The speech accents that indicate class difference in *Last Meal Requested* and the gendered elements that distinguish between places in *Façade* are examples of such “dialogic echoes” in the digital works. These features are typical of how addressivity not only provides the contexts for responses as navigation and interpretation but also contributes to the basics of narrative structure.

Addressivity operates from how literature seeks out identities in the contexts for characters. By seeking of identities

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49 The symbolic dimensions that can be assigned to such features operate in accordance with the designed simulations explained in the previous chapter. At the same time the objects, images and characters are symbolic components of the texts as utterances.
I mean how literature mediates between the subjects it portrays and those it appeals to, as subjects themselves in larger social and cultural contexts, which in turn contributes to interaction. The heterosexual middle-class white woman (Façade), black unemployed man (Last Meal Requested) and powerful, masculine Caucasian archeologists (Egypt) are just a few of the identities that resort to stereotypes in the digital works. In these depictions the digital works invite the recognition. Thus the digital works as literature function through, “composition and, particularly, the style of the utterance depend[ing] on those to whom the utterance is addressed, how the speaker (or writer) senses and imagines his addressee, and the force of their effect on the utterance” (Bakhtin, Genres 95). The effect of this addressivity as a component of interaction depends upon understanding and responding to the references and representations within the digital text that are grounded in social, historical and cultural expectations.

Addressivity is important for understanding the digital works for how the spatial can reference established narratives in the expectation of responses from the reader. An attention to addressivity acknowledges the spatial as profoundly communicative in how it offers interactive choices, with the examples discussed here related to identity (e.g. the alignment of a place with a gender identity or with a class identity). In this sense, the space of addressivity “is 'lived' rather than conceived, and it is a representational space rather than a representation of

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50 To support this idea I reference Johanna Drucker, who argues “knowledge is always interpretation, and thus located in a perceiving entity, whose position, attitudes, and awareness are all constituted in a codependent relation with its environment. The system is always in flux, and thus has the complex heterogeneous character of a cultural field shot through with forces that are always ideological and historical” (Drucker 2009 20). My own argument for the digital works as dialogic, and therefore operating as historical and material artifacts, is grounded in the idea the “system is always in flux” in relation to addressivity and the material is one possible point of stability for understanding reception and assigning the conditions that arise from references to the ideological and historical.
space; no sooner is it conceptualized than its significance wanes and vanishes” (Lefebvre 236). As a determinate of interaction, address creates circuits within representational space that are only closed by the response of the addressee. By addressivity here I do not mean direct, apostrophic address (‘Reader, I married him’) but rather semiotic or symbolic cues that activate mental representations in readers. In short, addressivity is the possibilities for answering the digital texts – in this case dominated by spatial elements. Addressivity in this sense can be related to how “the work, like the rejoinder in dialogue, is oriented towards the response of the other (others), towards his [sic] active responsive understanding, which can assume different forms: educational influence of the readers, persuasion of theme, critical responses, influence on followers and successors, and so on” (Bakhtin, Genres 76). I go on to explore similar indicators of addressivity in the digital works, specifically according to how an “active responsive understanding” is present in the representation of places.

**Place**

Those elements that combine in the representation of a place offer an emphasis on materiality in addressivity, or the textures of the works which “should be understood as existing in complex dynamic interplay with content, coming into focus or fading into background, dependent upon the performances the work enacts” (Hayles, Print is Flat 71). It is this relationship between addressivity and the materiality of digital texts that “moves from the language of ‘text’ to a more precise vocabulary of screen and page, digital program and analogue interface, code and ink, mutable image and durably inscribed mark, texton and scripton, computer and book” (Hayles, Print is Flat 51). I contend that this lived component is similar to the experience of the ergodic, and thus it can be used to determine how interaction contributes to narrative.
Such a movement from “the language of text” to the material contingencies of the digital work includes how they are assigned meanings.

It is the interaction between embodiments and linguistic or rhetorical practices initiated in the reception of the digital works that create the expectation of responses to specific cultural, social, historical, linguistic and literary references. This expectation can be related to the representation of places in the digital works as addressive, in how “the materiality of those embodiments interact dynamically with linguistic, rhetorical, and literary practices to create the effects we call literature” (Hayles, Print is Flat 69-70). By adapting this logic from Hayles, addressivity can be understood to exist in relation to those references that are realized through interaction with the materials of the digital works. This is reader interaction with objects, such as the iconic and monumentality, or according to recognizing the signifiers of place in the works. I focus on the reception of material embodiment and linguistic or social and cultural components as interaction through the addressivity of places. The representation of a city, a dwelling or a room in the digital works is often accomplished in the spatial by such material considerations as objects, images, and references in spoken and written language. These elements contribute to the ‘recognition effect’ of the spatial mentioned above, based on their material qualities. One of the examples I deal with in the following chapters is sound as addressive and spatial according to how it signifies place.

52 To explain Hayles’ reference, textons compose the work, while “scriptons are what an ‘ideal reader’ reads by strictly following the linear structure of the textual output” (Aarseth, Cybertext 62). In other words, the coding is the textons, while the story is manifest as scriptons.

53 Or by how an object fulfills a function in narrative based on its utility (e.g. CCTV footage and its connotations of surveillance, power, control and discipline).
To return to the established conceptions of wisdom and power (See Lefebvre 220), these take on addressive qualities in the digital works. For example, the role assigned to a female character based on stereotypical gender depiction, or the values associated with the audio of a masculine speaking voice establish conceptions of wisdom and power in the digital works. In the voice, meaning is attached to how

“culture colors the voice, contours its performative capacities and leaves deep imprints on its character – it mediates the voice, in terms of its accent, intonation, timbre, cadence and rhythm. And these mediations and their performances matter and are just as powerful as and underpin the electronic effect, be it analogue or digital” (Neumark xviii).

In these terms, understanding Façade or Last Meal Requested is based not only on what is said, which is often as very short and fragmentary statements, but also on the voices it is said with. Therefore, a voice is always met with recognition and interpretation of its qualities in “accent, intonation, timbre, cadence and rhythm” (Newmark xviii), and in this case with how it references gender. Gender is generally represented in the digital works in terms of stereotypical binaries (i.e. Masculine/Feminine). These binaries can be understood as always “constructed while taking into account possible responsive reactions” (Bakhtin, Genres 94). These responses are tied to the progression of narrative. The binary representation of gender in relation to roles in the home is one example of such prohibitions encoded in representational space.

The addressive potential of place also operates in the digital works according to how representational space is “directly lived through its associated images and symbols, and hence the space of ‘inhabitants’ and ‘users’” (Lefebvre 39). A house or an area within it, for example, or the depiction of an
actual place in the digital works such as Chicago (Façade) or Cairo (Egypt), are elements that incite responses for interacting with and working towards the narratives that these features are parts of. It is in this process that characters fuse with locations and interaction produces a position for experiencing the works. The reader through a focalizing agent in the text can often take up this position between the place where the narrative is set and interaction with the interface as external to the narrative.

Interaction with the digital works is often linked to the places they represent via characters. In Egypt, qualities associated with the feminine (Jeanette) and the masculine (Ross) characters carry meanings that are related to stereotypical representations of gender. In this example “stereotypes are a crude set of mental representations of the world” (Gilman 18). In Egypt, the main masculine character Ross is associated with action, adventure and discovery. The places he is in are either ‘native’ (where he is wild and mysterious) or colonial settings (where he becomes authoritative and strong). Meanwhile the main female character (and narrator) in Egypt, Jeanette observes the changes in Ross between places and is only able to be autonomous (i.e. not observing or reacting but reflecting and making choices) in domestic settings (in her room or boat cabin). Otherwise she is uniformly assigned the characteristics of fear, inquisitiveness, love and nurturing, but these are always dependent upon the places she is in. In this way a character and the place she occupies can be linked within the addressive.

When place is presented in representational space it relies on pre-existing associations for the reader to make possible choices. These associations can be gender binaries, stereotypes of class or another recognizable discourse (e.g. ethnicity). Eva Kingsepp (2006) examines a similar instance of how a place is recognized in relation to the historical genre of
“Nazi-ness” in the computer games *Return to Castle Wolfenstein* and *Medal of Honor: Underground*. In each of these computer games, Kingsepp argues the representation of place is dependent upon “locations [...] identified through a number of visual signs that together with connotations to other mediated visual representations, such as film and photography, establish a feeling of being in a certain place” (67). This establishment of place is dependent on preexisting narrative associations, which are part of the “connotations to other mediated visual representations” (Kingsepp 67). In this way, place in the digital works refers back to established associations in a representational sense. I expand on this idea by arguing that the representation of place is addressive, and therefore suggests particular responses from the reader, according to pre-existing associations. These associations are established by the recognizable features depicted or simulated in the space of the digital works, as a setting, either specifically such as ‘upmarket neighborhood’ or by places such as the ‘native quarter’ or as more generic classifications such as ‘Urban’ or ‘Home’.

Finally, addressivity in the digital works provides prohibitions over interaction with the digital works in the representation of place. Place controls interaction with the ergodic as “experienced space” (Gordon and Koo 206). This experience is bound up in the interactive components of the texts, such as in navigation. The reader negotiates the space as a series of interconnected and interrelated places, where place “is created by events, rather than being merely a location where events occur” (Muse 191). An example of events creating such a place is the lounge in *Façade*, which includes iconic signs (couch, art, ornaments), which contribute to the place.54 As I

54 Similar places that can be experienced in the texts are in *Egypt* (e.g. points along the Nile, the Cataract Hotel), *Last Meal Requested* (South Central Los Angeles, Afghanistan and Halabja) and *Dreamaphage* (the hospital).
explain in chapter five, the lounge is aligned with the feminine character Grace and by negotiating the place narrative conditions are encountered as defined by gender. In narrative as well as the ergodic, the lounge must be recognized and interacted with as a place by the reader within the set representational boundaries that are aligned with gender.

The boundaries between the reader and the representational space of the digital works are established by the qualities of place I have already mentioned, such as a relation to character/s (often as focalizing agents), virtual objects or class distinctions. The result is a role for place in reading, which is “not the writing of a place, but rather writing with places, spatially realized topics” (Bolter 36). In this sense, place is not narrated objectively, but is experienced and in doing so it frames interaction and the resulting narratives. Any identification with place that is experienced as part of interaction with the digital works is part of addressivity. An important part of this addressivity is materially manifest in the audio components of the digital works. Due to the importance of audio for addressivity, focalization and perspective in the digital works, I now turn to it as a contributing element to the spatial.

Audio and the Spatial
In the digital works, audio contributes to representational space, which influences both interactional and narrative outcomes. This influence is according to how, “sound is an omnidirectional experience, capable of carrying information about virtual materials and dimensions” (Grimshaw and Schott 474). Sound as virtual materials and dimensions in the digital works operate as part of the structures provided by design. Similarly, sound is symbolic in the digital works and functions within addressivity as it carries information as what Grimshaw
and Schott term “auditory icons” (476). These icons “acknowledge how meaning is encoded in sound with the construction of a sound object that is sounded whenever a particular event occurs in the digital system of which it forms part” (Grimshaw and Schott 476). In the digital works such auditory icons are connected to objects and create meaning as iconic signs. In my analysis I explore audio as a dimension of the spatial, firstly as a product of design and “carrying information about virtual materials and dimensions” and secondly according to its role as “audio icons” where “meaning is encoded in sound” (Grimshaw and Schott 474). The digital audio, as a feature of the spatial, influences and creates the conditions for interaction and the experience of narrative. The resulting spaces are interpreted according to the perspectives created by audio in alignment with the visual components.

The role of sound in establishing the spatial should be considered as part of how “sounds contribute to the presentation of space” (Bal, Narratology 298). In the following analysis, “auditory icons” are identified as part of the representational space of the digital works. My analysis of audio and its role in the spatial is grounded in the combination of what Grimshaw and Schott term “semantic listening” and “navigational listening” (477). Semantic listening is “where the listener utilizes a (semiotic) code to interpret (the meaning of) the sound” (Grimshaw and Schott 477). Navigational listening is experienced when “many sounds, particularly environment sounds, function as ‘connectors’ allowing orientation between spaces” (Grimshaw and Schott 477). Both these types of listening are important critical components when one considers the experience of the spatial through interaction with the digital works. Greg Goodale provides a theoretical basis for such a reading of recorded sound, arguing it is an important element in contemporary textuality, whereby “hearing practices can be tied
to visual practices” (9). In the digital works audio surrounds the body of the person interacting with the work. The result is a degree of interaction with the digital works that features an “absorption and enclosing of a listener in a cathedral of sound – a sonorous envelope” (Goodale 69). This auditory space contributes to structuring interaction with the digital works.

Sound embodies addressive elements, which include the representation of places. The examples of sound representing place in narrative I discuss are the use of accented and gendered voices as audio in Last Meal Requested and Façade and historicized audio in Egypt. In relation to the ergodic music is used to distinguish between places as historical and contemporary by creating an auditory representational space that includes the body of the reader. In Last Meal Requested and Façade, characters speak in accents that situate them in the places they are depicted as occupying in narrative. These places are identified in terms of class and how this contextualizes interaction. The depiction of accents in the audio signifies class status and its associated meanings in both Last Meal Requested and Façade. The accented voice as audio influences interpretive responses in Last Meal Requested and is a determinate of interaction in Façade. In both cases audio, in relation to accents but also in the information provided by the recorded voice, “can have an effect upon the action experienced” (Grimshaw 2008 223), and thereby influences responses to the ergodic.

Finally, diegetic sound is an important consideration in the spatial structure of the digital works. This structuring is determined by the non-standard cinematic definition explained

55 By aligning stereotypical representations of class in narrative, places are established that limit reader interpretation. In Façade for example, recorded speech features standardized North American educated pronunciation, which can indicate a middle class affluence for the characters and thus contributes to a particular context for reader interaction with them.
by Grimshaw (2008 221-230). In Grimshaw’s model, sound has to “inform about the game” (2008 221) to be considered diegetic. In the case of the digital works sound has to inform about interaction with the work to be related to narrative as a component of representational space. Interface sounds (e.g. a program start-up beep) are excluded from representational space and therefore from narrative.\(^5^6\) This non-diegetic audio includes external sound effects that are related to the medium, or clicks on links or the sound of a program opening, or music that does not accompany narrative time. Therefore non-diegetic sound is outside the representational space of the works. An example of the reader’s experience of representational space through diegetic audio is the phrase “Last meal requested, justice, equality and world peace” which is activated and repeated when the reader moves between the thematic sections of *Last Meal Requested*. As I explain in chapter four, the phrase is an audio icon marker between two sections of the work, but it is also an example of the monumental in its repetition and position. Sound is thus part of representational space and meaningful.

*The Spatial Foundation for Interaction*

To conclude, this first chapter examines the theoretical background for my analysis with references to established research. By investigating space as a governing representational system in digital works, my research embarks from this background with the aim to avoid the compartmentalization of the ergodic, as separate from the representational. This investigation attempts to problematize such earlier analyses based on (i) the isolation of ludic elements (Juul, *Game and

\(^5^6\) In Grimshaw’s model non-diegetic sound “includes a variety of interface sounds heard when the user interacts with the game or level configuration menus or any musical score” (Grimshaw 2008 225). These sounds are related to interaction but not to the representational in the digital work.
Narrative; Frasca, *Simulation versus Narrative*) (ii) the isolation of narrative elements (Murray, *Hamlet*; Atkins; and Hayles, *Writing Machines, Electronic Literature*); and (iii) the division into “unit operations” or “modes of meaning-making that privilege discrete, disconnected actions over deterministic, progressive systems” (Bogost, *Unit Operations* 3). While these examples provide valuable information into the interactive nature of digital media, each lacks an alignment of the interactive that emerges from the ergodic with the narrative components of such digital works as those discussed here.

Foremost the following analysis of the digital works attempts to avoid separating interactive and narrative components in an attention to the spatial. The attention to the spatial creates a bridge between the “codes and circuitry within the computer,” and the reader via the visual interface (Pressman n. pag.). Reader interaction thus operates within the spatial, which is analyzed using perspective, monumentality and addressivity. Interpretation of these techniques is a process of negotiation with the signifying system at hand; in this case, the spatially presented multimedia works of digital literature. To explain how space and interaction with the multimedia elements in the works are meaningful I refer to the indicators for both effect and meaning according to how each digital work, “predisposes its audience to a very specific kind of reception by announcements, overt and covert signals, familiar characteristics, or implicit allusions” (Jauss 23). In my analysis these signals, characteristics and allusions provide the “non-verbal symbols and signs”, proposed by Nitsche, and the resulting “suggestive markings” that “trigger reactions” as interpretation and manipulation (44). My analysis treats these elements as “overt and covert signals, familiar characteristics, or implicit allusions” (Jauss 23) and begins in the prefaces with instructions and other paratextual borders to the texts in
reception. Following the prefaces, the analysis of the design in the digital works explores the codification of space and how it controls interaction and the formation of narrative.

Finally, the incitement to respond to the digital works features references to speech accents for class and stereotypes for gender, as narrative components that are expressed within the representation of places. As a result, established representational systems that rely on aesthetics take on a significant role in close reading, which includes the ergodic along with gender, place, class and space. Gender is portrayed as a qualifying dimension of space in addressivity, with stereotypes of masculine and feminine contributing to the narrative choices the reader can make in interacting with the digital works. Social class is represented in the digital works in relation to place. Class does not operate as a binary in the representational spaces of the works in the same way gender does. Rather, class as an attribute of place controls choices for the reader by the designation of its attributes (i.e. poor, wealthy, marginal, suppressed etc.) Examples of class I discuss are its representation in the neighborhood in Façade, the colonial space/places of Egypt and the impoverished and marginal places of Last Meal Requested. In Dreamaphage, it is the design of the work that creates the conditions for interaction and places the reader within the space of narrative.57 The result is a spatial experience of the text that follows first-person perspective and focalization almost to the level of simulation, as I explain in chapter four on design and how it operates for interaction.

57 In the representation of space, as is the case with Dreamaphage, place is experienced and understood as a catalyst for interaction with the ergodic. This interaction with place operates in a similar way to how “we tend to identify traces of circumambulatory movements that bring a place into being as boundaries that demarcate the place from its surrounding space” (Ingold 148). This separation is established by interaction with Dreamaphage, where movement is suggested according to boundaries, such as sounds, and with the representational elements within them.
In the following chapter I outline the specifics of my methodology for the subsequent analysis of the digital works in terms of space, interaction and narrative. The components of Lefebvre’s spatial model are applied to the interactive elements of the digital texts. In doing so I refer back to the ergodic model of textuality proposed by Espen Aarseth (1997) and question how such a model can explain interaction and narrative in digital literature. I use Aarseth’s concept of the ergodic as the basis for my inquiry into understanding how such digital media produce stories. From the ergodic I increasingly identify the role space has in interaction in the digital works. To set up my analysis, the ensuing chapter combines Aarseth’s model for “The Textual Machine” (Cybertext 21) with a recent visualization of Henri Lefebvre’s tripartite model for spatial production. In presenting this original method I aim to explain how the spaces of the digital works influence reader interaction. This explanation drives the analysis of the later chapters.
An Interactive Literary Communication Based on the Spatial

Having provided a theoretical grounding for my analysis, I now take up from the theoretical account of close reading given in chapter one and explain how it can be applied as a method to the digital works as a system of analysis.

My method of analysis is visualized by the diagram in Fig. 2.1, which shows the spatial dimensions of digital literary texts as representational and representations of space. The features depicted in this diagram proceed outward with the reader at the
center. The reader experiences this space through the perspective, focalization, haptics and addressivity, which I described in the previous chapter. From this point reader interaction takes on the conditions of “spatial practice” (Lefebvre 8). Spatial practice is thus initiated by the reader in response to the representation of space and representational space of the digital works. In Fig 2.1 the reader engages with the spatial via design, addressivity, form and signs. In the case of Façade this is exemplified by the movement between bar and lounge and recognizing the view. In Egypt it is the difference between the un-colonized and colonized settings, as well as the stops along the course of the Nile. The representation of these places can be analyzed with close reading via signifying virtual objects, which include references to and representations of class and gender. I now explain how I make this analysis over the following three chapters.

The diagram in Fig. 2.1 adapts and refines two existing models of textual communication; Espen Aarseth’s “The Textual Machine” (1997 21, see Fig. 2.2) and Hannah Anderson’s “Lefebvre’s Spatial Triad” (Anderson 2003 n. pag.; see Fig. 2.3).

![Figure 2.2. "The Textual Machine" by Espen Aarseth (1997 21).](image)

I have replaced “Medium” with “Form” in the opening diagram (Fig. 2.1).
The reason for this is it is no longer necessary to distinguish between media in...
“The Textual Machine” visualizes cybertextual communication with an “operator”, a “verbal sign” and a “medium”; or as Aarseth explains, “a material medium as well as a collection of words. The machine of course, is not complete without a third party, the (human) operator, and it is within this triad that the text takes place” (Aarseth, *Cybertext* 21). The triad between the medium-specific material artifact, the words and the operator is an example of human computer interaction grounded in the textual. This interaction takes into account the specificities of the medium and the dynamic of the source code. However, the analogy of the “Textual Machine” does not account for the spatial as a medium for representation. The diagram Fig. 2.1 is an attempt to account for this level of representation in the digital texts.

Figure 2.3 Hannah Anderson’s “Lefebvre’s Spatial Triad” (Anderson n. pag.).

The second inspiration for Fig. 2.1 is “Lefebvre’s Spatial Triad” (Anderson n. pag.), which is a visual summary of the

relation to the digital texts because all communication is so obviously mediation. However, the form in which the medium is constructed and presented has the potential to provide insight into the structure and technique of communication.
three-part model of space that Henri Lefebvre proposes in *The Production of Space* (1972). Anderson represents Lefebvre’s triad as a cycle composed of three interlinked and mutually defining aspects of space as the product of social forces. The representational, representations and practice are represented according to the roles of each in “a present space, given as an immediate whole, complete with its association and connections in their actuality” (Lefebvre 37). In other words, the interdependent three-dimensions of spatial production are a structuring and representational system for interaction. In the present case, close reading these interdependent spaces results in an account of interactive digital literature.

Close reading of the digital texts can highlight how space provides, conjoins, and organizes a symbolic or coded layer to the digital interface that is open to interpretations. In my close reading I attempt to move away from the traditional triangular model of textual communication (i.e. writer, reader and text) in order to account for what Lefebvre terms the “product and process” aspects (37) of the spatial that are a part of the digital works. In the digital works space is both produced by and produces meaningful interaction. Space thereby qualifies the movement, perspective and characters that contribute to reader interaction. This restriction is of course present in a print text, but in the digital texts it is the contact point between the reader and the programming that results in narrative outcomes (e.g. the resolution of marital conflict in *Façade*). I contend that the conditions experienced in the response to the spaces of the digital works can be explained according to the spatial triad of Henri Lefebvre. I now clarify how close reading space in the digital works demonstrates its control of interaction.

My analysis of the digital works focuses on the components of representational space and how they channel interaction. For example, the objects and places in *Façade* or
the divisions of colonial and colonized spaces in *Egypt*, guide reader interaction towards the limited number of narrative outcomes offered by the programming in each of the works. Interaction is directed through perspective, focalization and monumentality. I go on to explain representational space and its importance for interaction through the examples of colonial themes in *Egypt*, the perspective of a witness in *Last Meal Requested* and the perspective experienced in *Façade*. The experience of perspective, most often through the narrative technique of focalization, combines with the representation of place in each of these examples.

**Representation of Space**

The representation of space has its greatest influence upon interaction with the material components of the digital works. Close reading demonstrates this influence in how the shape of the work is used to represent space, which in turn is experienced via reader interaction with the material. In other words, represented space is the depiction of the physical or material reality of that space and the elements that compose it.\(^59\) The influence of such represented space on the digital works is grounded in the design. Objects and characters, composition of elements, coloring and light, the use of images, even the material properties generated by the coding of the works can be considered within the representation of space in the digital works. Furthermore, the representation of space in the prefaces stands in for the works at the point they are introduced to the reader. This introduction includes the dimensions, characters and objects depicted in the prefaces as well as the represented elements of space in design. I take this

\(^{59}\) In the words of Lefebvre, such representations of space are concerned with how we identify “what is lived and what is perceived with what is conceived” (Lefebvre 38). I read this as an equation for the symbolic; the joining of the perceptual with the conceptual in spatial practice.
representation of space as a guiding principle for interaction with the digital works.

One of the examples of the representation of space in the digital works discussed in this study is that which emerges from how characters are introduced in their prefaces. This introduction of a character partly influences interaction by establishing the nature of the spatial prior to the reader engaging with the text. In the case of Façade, space is represented for the reader from the perspective of the guest and of Grace and Trip in the prefaces, with a promise of how “you will have changed the course of Grace and Trip’s lives” (Façade FAQ n. pag.). Each of these characters becomes a focal point within the material space of Façade. As my close reading shows, the spaces of the text align with the gender characteristics of the primary characters. Similarly, in Egypt, Jeanette, the narrator, is presented in the prefaces as a focal point for the represented spaces of the work. However, in the case of Egypt, space is arranged in correspondence with themes of colonial nostalgia. This arrangement is mediated for the reader via focalization and this controls interaction. In both Egypt and Façade the characters are the entry point into the spaces of the works and this is presented to the reader in terms of the representation of space in the prefaces and the design. But as I go on to explain in chapter five, the characters are also features of representational space and the prohibitions and possibilities of spatial practice.

The representation of space controls interaction according to its material elements via objects and characters. In other words, design becomes meaningful in its representation of space as the articulation of ideas and values. Design is thus infused with narrative implications, such as can be found in spatial metaphors. An example of these material metaphors I go on to discuss is the layering of an image over a written text in Last Meal Requested, where the image represents an alternate
perspective to the written text. Such representations of space in design are the result of the material configuration of the digital work, which exerts a strong influence over interaction. In the case of the representation of space, it is the work as a space that is represented. The representation of this space is grounded in form and design in the digital works, even in the case of the prefaces, and it operates as a controlling dimension for spatial practice. This representation of space, as a conceptualized image of that space, is complementary but fundamentally different to the space that is lived through via the symbols and images that comprise representational spaces.

**Form and Design**

In Fig. 2.1 “Form” refers to the combined material constituents present for communication to take place. By combined material constituents I do not mean just the device, but the context and presentation of its use. For example, interacting with an avatar in a virtual space from a computer screen or participating in a video conversations via a mobile phone interface are examples of visual interaction through co-situated verbal and non-verbal signs. In each there are facial expressions and gestures that are unique and materially different, yet each is mediation. Added to the mediation and communication via form can be the remediation of devices in virtual environments, such as where a phone can be reinterpreted as an iconic object that organizes interaction within the larger digitally mediated space, as is present in *Façade*. By acknowledging the implicit mediation of communication and turning instead to its material state, it becomes possible to interrogate the form and understand how it operates. The interrogation of the material features contributes to the potentials of interaction and

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60 In the recognition of the combined constituents, the form is the material equivalent of the text, or “a set of utterances providing form for content” (Gervais n. pag.).
narrative in regard to the spatial. For example, the accents of recorded character voices in *Last Meal Requested* are material components of the spoken language in the text that provide contexts for interpretation and responding to the work by their evokations of places, within the hierarchies of social class and in the locations associated with them. By focusing on the linkages between the material components, what they signify and the spatial features they evoke I attempt to present an image of interaction and its narrative outcomes.

My analysis focuses on the material expression of the spatial and how it structures responses (navigating, interpreting) to the digital texts. This structure has clear implications for the narratives represented in the digital texts. Of course, form is always closely related to design. The design of a digital interactive work is the realization of form. It is in the sense that form is a generic backdrop to design. Design is the material arrangement of the digital work (i.e. its form - as programmed, screen-based, two or three dimensional, graphic, responsive to inputs and multimedial), which provides a basis for addressive elements such as perspective and point of view. For example, a website created using Adobe Flash (i.e. *Dreamaphage, Last Meal Requested*) is designed with the particular conventions and restrictions of that program. Many of these restrictions are recognized by the reader in the spatial, such as a repeated image functioning as a link (e.g. a wheel for audio, a boxed image in negative for the three sections of *Last Meal Requested*). Thus, design can be read as the specific instance of form (i.e. a hyperlink is used in a specific way in that particular work). As I argue in the previous chapter the digital work’s design gives form to ideas (Löwgren and Stolterman 51). This concept of design is not strictly functional, but is rather concerned with meanings framed by the demands of interaction. This arrangement results in the composition of
codified elements, which are the focus of my analysis and that must be recognizable and understood by the reader in order for the text to function.

Therefore, I argue that design is the organization of form in how it governs interaction (including navigation and interpretation) and this organization can be critically interpreted in terms of the spatial. Furthermore, interaction is meaningful in relation to how materiality is expressed in design. Included in design is how it functions as “a temporal arrangement of space” (Zoran 312). In this case the temporal is the time frame realized through interaction, which may not necessarily be chronological time. For example, a first-person perspective combined with a present tense and first-person address places the narrative event in present time in the contexts of interaction. Accordingly, this space that is experienced through the design of the work represents the temporal in interaction. In other words, the time represented in the space of the work becomes the time the reader adopts for interpreting the narrative. A day in the space of the text is a day in narrative time. The illusion of temporal change is introduced into the work by navigating designed space or by interacting with it. Events and characters accompany this navigation from the reader perspective, as they are the center of the space of narrative.

Finally, interaction with the digital texts is a consequence of the interpretation of a sign and symbol-rich space as created in design. Navigation, the manipulation of spatial features, selecting hyperlinks and the adding of content are articulated

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61 It is perhaps because of this that it is often difficult to represented interior dialogue and flashback in interactive digital works.
62 The corresponding time of space to that of narrative has implications for the role of the ergodic in narrative. In other words by interacting with the material of the digital work, the reader is propelling the temporal arrangement of narrative.
through form via design as an organizing principle.\textsuperscript{63} In this process it is perhaps difficult to separate the form and design from the symbolic, but that is acknowledged in Fig. 2.1. The form and design, while deeply material also have the potential to embody the semiotic within the dynamic representation and interaction offered by the spatial. From the following analysis the relationships between the material and meanings as a process are grounded in interaction with the spatial dimensions of the digital works. An object, setting or situation creates settings, or a set of relationships that “establishes the field for actors,” as a space according to its limitations, possibilities, resistances and permissions (Shane 105). These elements are activated according to the structures of design in the digital work and compose the material basis for addressivity.

\textit{Signs and Addressivity}

In the spaces of the digital works addressivity, like spatial practice, is lived rather than conceived. In other words, spatial representations trigger associative and mnemonic networks for readers.\textsuperscript{64} Close reading can help explain how a reader can respond to the digital text. This explanation is based on how representational elements from the spatial evoke responses based on references to already established narrative elements from beyond the texts. Addressivity here can be related to how “the work, like the rejoinder in dialogue, is oriented towards the response of the other (others), towards his [sic] active responsive understanding, which can assume different forms:

\textsuperscript{63} David Graham Shane explains this role of design as a principle of organization in relation to urban space, whereby “actors’ mark out’ the area, space, or place of their actions, their relationships, their intentions, their desires or their property; they draw a non-physical boundary around a conceptual space, set of relationships, or system or pattern of actions, or practices” (Shane 104). This same marking out, differentiation and claiming/naming is present in the digital works.

\textsuperscript{64} I contend that this lived component is similar to the experience of the ergodic, and thus it can be used to determine how interaction contributes to narrative.
educational influence of the readers, persuasion of theme, critical responses, influence on followers and successors, and so on” (Bakhtin, *Genres* 76). The orientation of the digital work as spatially addressive can be present in the representation and references to elements from religion and faith, history, political discourse, ethnic and national identity, or as is the examples discussed in this present study, class and gender. My close reading explores class and gender as guides or instigators for spatial practice that indicate addressivity in the digital works. There is intent, or anticipation present in the text as addressivity, whereby responding to the work is guided, encouraged or denied via these readable elements in the spatial.

I explain how addressivity operates from the spatial by examining how places are represented in the digital texts. In this case I analyze how a place is communicated via signs of gender and class. In this way I demonstrate that addressivity, or the expectation of responses, is grounded in space through the use of established cultural and social conventions, pre-existing narratives and stereotypes. If we superimpose the example of the beating of Rodney King in 1991 onto the Fig 2.1, it is first an established factual narrative that is recognized widely. This recognition is exploited in the representational space of *Last Meal Requested* via images, text and audio. In particular it takes the form of an emphasized reference to the famous amateur handheld video shot by George Holliday. In *Last Meal Requested* the design of the text adapts the Holliday video as a repeated series of 4-second loops, which in this format functions as an iconic sign referencing not just the event but also the place/s linked with it today. The video loops reference the beating of Rodney King according to a broad coalition of
associations that are today closely connected to an established image of South Central Los Angeles.  

In close reading the places depicted in the digital texts, I extract the semiotic references to class and gender and then explain how they elicit responses to Last Meal Requested, Façade, Egypt and Dreamaphage. Whether as addressivity or design-based interaction, the material configuration of the digital works and the language each employs consistently have an individual person as its focus. This person is termed in my analysis ‘the reader’, not as an attempt to center the analysis within one particular discipline or dominant identity, but in an effort to emphasize the interpretive and physical engagement on multiple levels with the digital works. The reader is the addressee according to the spatial components of the digital works, which are included within, and that respond to, the overall narrative.

Space and Narrative
The analytical progression from space to narrative is based on the argument that by incorporating space into a model for interaction with digital texts, like those discussed in this study, it becomes possible to explore the impact the ergodic makes upon narrative. The method outlined here takes up the signs, design, form and addressivity as points within the spatial where “the constructor’s mercy,” or lack thereof, determines both interaction and narratives (Aarseth, Cybertext 89). The spaces in the digital texts therefore include the representational and ergodic components. The authored and intentional nature of the digital texts is thus embodied by the spatial and my close reading attempts to establish the implications of this for interaction and meaning. Furthermore, interactivity in itself

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65 A full account of the connections between the beating of King, the trial of the officers and the riots that followed is given by Linder (2001).
does not suggest the absence of an author/constructor or the structure that results from that authority. Rather, by examining the spatial dimensions of the digital texts it becomes possible to observe and understand them as constructed interactive media objects and as narrative texts.

Such an analytical model for literary communication based on the spatial can be connected to broader narrative studies via a brief consideration of how the spatial is dealt with. The connection of space with narrative is today an established topic in narrative studies. For example, in Mieke Bal’s work on “how spatial arrangement connects discourse to fabula” (Narratology 297), a focus on the representation of and references to the visual is used to understand the narrative potentials of the spatial in print media. Bal’s approach results in a cognitive understanding of the spatial according to how, “places are linked to certain points of perception. These places seen in relation to their perception constitute the story’s space” (298). The points of perception are realized according to how “the primary aspect of space is the way characters bring their senses to bear on space” (Bal 298). Such a focus upon the senses demands the attention of “sight, hearing, and touch” (Bal 298).

This sensuous approach is adopted in my close reading of the digital texts. But the sensuous dimensions of any close reading requires refinement if it is to account for the interactive potential of the digital texts and the symbolic components within the spaces of each.

Like the spatial dimensions of the digital texts, in print media the spaces that are narrated to a reader are the primary medium for character interactions. An example of how the space in print narrative mediates between characters as settings is the “spatial divisions between private and public space” (Bal 302), where “a cluttered room seems smaller, a sparsely furnished room bigger than in fact it is” (Bal 303). Bal extends
this perception-based understanding of the spatial into the personal experience of the reader in her interaction with the text, citing the example of James Joyce and Dublin, and how someone familiar with the city will be able “to visualize much more, and for them the notations ‘in the kitchen’ and ‘in the parlor’ will evoke much more precise images” (Bal 304). However, in the digital works, spaces are experienced according to the ergodic in real time and are visual, auditory and interactive. Due to this degree of real-time spatial interaction, the visualization that comes with descriptive references to space does not function in the same ways as in Bal’s examples.

The images of space realized through printed narrative can be contrasted with the lounge in Façade, which functions as an experience and not as a memory. The lounge of Façade is a place represented equally by the iconic as the symbolic. Accordingly, I read the spaces as representational in the digital text according to the experience of this space. The characters are part of the experience of spatial structure. This experience is often anchored in stereotypes, the personified equivalent of a sign, where a certain set of attributes signifies a particular character type, which is held against the backdrop of specific culture and society, often expressed as a place. In the case of Façade, as I explain in the following chapters, the characters of Grace and Trip are assigned particular places within the apartment, represented as a three-dimensional interactive space. The attributes assigned to these places influence the reader’s interaction with the text, all the way down to the themes and language used. In my close reading I explain how such an interpretive interaction can function in responding to the places represented in the text.

Interaction, including the sense elements described by Bal, is a vital consideration in the design of any medium and its representation of space. But in assessing the digital texts, the
sensual is just one dimension of the experience of socially constructed representational space, which is also interactive, symbolic and thematic. The experience of space as a sensual medium alone is therefore not sufficient to demonstrate the interactive and interpretive potentials present in the digital texts. Instead it is necessary in close reading to expand the focus on the relationships between space and narrative. This expanded focus is possible through an attention to space, place and focalization. In other words, the spatial as a representational field operates according to "complex symbolisms, [...] to be defined less as a code of space than as a code of representational spaces" (Lefebvre 33). This coding of space as a representational and interactive field contrasts to space as a semantically structural component of narrative from within diegesis, which functions through memory. Instead of memory alone, the symbolic and sign components of the representational space must be the foci for close reading. However, attention to the structuring dimensions of space is of course important within my analysis.

In terms of narrative and the representation of place, close reading remains grounded in the “principles of ordering,” from which “the locations where events occur are also given distinct characteristics and are thus transformed into specific places” (Bal, Narratology 40). In the digital texts, place operates as an ordering principle based on how it is represented. In my close reading, images and references that comprise place order responses to interactive elements. In Bal’s “principles of ordering,” the characteristics of place are dependent upon a symbolism that functions through memory. But such ordering does not explain the symbolic and addressive dimensions of places in the digital texts. These dimensions are explained in my close reading by representational space, where a reference to a place is symbolic in addressivity. This
addressivity is organized by focalization, defined as “the relation between the vision and that which is ‘seen’, perceived” (Bal 318). Focalization provides my analytical model with interactive representational spaces as a structure for narrative. The focalizing agent positions the reader in relation to the text as a means for interacting with it. However, as Bal’s definition indicates, the visual preoccupation with the spatial continues in focalization. In contrast, the spaces of the digital works, including their visual dimensions, are not only perceived but also enacted in auditory and motion-rich environments. For this reason the model visualized in Fig. 2.1 attempts to expand focalization from its visual dimensions to include the symbolic and the material dimensions of the digital texts in the spatial.

The focalization I describe is not just seeing with a pair of eyes or experiencing as a body in the digital works. This experiencing of the spaces via focalization in the digital texts is an example of “the relation of knowledge between the narrative instance and the character” (Kuhn 263). By interacting with the digital texts via the perspectives of design and addressivity, the reader shares the space between narrative instance and character. In the case of Dreamaphage and Façade it is as an avatar operating between the narrative instance and the character. In Egypt, the reader is compelled to assume the perspective of Jeanette, even down to the point of being given a clue via the screen interface as a virtual object (a magic charm), which Jeanette herself receives at the same moment she narrates it. As I demonstrate in the following three chapters, these modes of interaction, including interpretation, are channeled by focalization within the space of narrative, establishing perspective and guiding navigation for the reader through the digital work. Thus the ergodic properties of the work operate according to the focalizing agent. These structures shift during the course of the narrative, and the reader follows
this course by interacting with the ergodic components of the texts. It is the experience of space that provides both the impetus and focus for this negotiating and interpretation and that includes the ergodic dimensions of the digital texts.

With a growing body of digital literary media that rely on reader interaction, the idea of structure being the test for interaction needs to be re-examined. In determining this approach I refer again back to Espen Aarseth, who proposes an attention in analysis to “a structure of subverted hierarchies, or [...] of well-connected nodes and remote threads” (Aarseth, *Cybertext* 89). These mechanics of interaction, as “well-connected nodes and remote threads” remain important for understanding how meaning (whether as play or narrative) can be created with digital media. Aarseth goes on to suggest a role for space in this understanding, as perspective in both the experience of the text and narrative meaning. Aarseth implies that by interrogating perspective as a “limited point of view” (Aarseth, *Cybertext* 89), a way forward may be created for understanding interactive digital media as a narrative assemblage. My model, as visualized in Fig 2.1, is an attempt to define a communication in which interactivity is not just restricted to the material structure, but instead is the response to a complex and embodied form of addressivity. Such a communication includes and is dependent upon the spatial, which I see as uniting the expressive and creative elements of the digital works. The following three chapters apply the spatially grounded literary communication introduced in this chapter. I begin with the prefaces to the digital texts and how they set up interaction through their introduction of spatial components.

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The Spatial in the Digital Preface

The prefaces to the digital works initiate reader contact with the spatial in two ways: primarily, as the representation of space; and secondarily, in the establishment of representational space. The representation of space in the prefaces is through the use of descriptions, maps and diagrams. The prefaces prescribe interaction with the spaces via the presence of objects and characters from the narrative world. Design is introduced via representations of space, by referencing the works as material structures. This representation of space is the material platform that introduces the qualities that define representational space. This representation exists outside the boundaries of the story and can therefore be classed as an example of metalepsis. I contend that the breech of narrative boundaries between the work and the reader in the prefaces occurs in dialogue with the paratextual as a threshold to the texts themselves. Therefore, objects and characters move into the world of the reader and vice versa via the prefaces. Finally, the prefaces are examples of the remediation of print and this referencing of older media limits interaction. Remediation introduces reception practices from older media to the interactive components of the digital texts. I claim in this chapter that the prefaces introduce the spatial configuration of the texts.

66 The representation of space follows a tendency “towards a system of verbal (and therefore intellectually worked out) signs” (Lefebvre 39). These systems include rules for interaction with the digital works in the form of authorial advice. In contrast, representational space is established by “more or less coherent systems of non-verbal symbols and signs”, where it “overlays physical space, making symbolic use of its objects” (Lefebvre 39). In the prefaces this overlaying of space with the symbolic occurs through the introduction of characters, settings, objects and goals.

67 I have omitted Last Meal Requested from the analysis of the preface, as it does not add to my argument (nor contradict it). The prefaces to Last Meal Requested are an introduction by the creator and a statement (http://rhizome.org/artbase/artwork/16975/).
Space in the Prefaces

The prefaces to Façade consist of: (i) the website www.interactivestory.net; (ii) a Frequently Asked Questions (FAQ) list; and (iii) a separately published PDF document titled “Behind the Façade” which “explains how to play the interactive drama Façade, and what’s going on inside the artificial intelligence (AI) of the characters” (“Behind the Façade” 1).

Egypt’s prefaces are (i) the introduction (with dedication); (ii) the Glossary and Rubric; (iii) the maps; and (iv) the “Papyrus Sections.” The Dreamaphage prefaces are made up of: (i) the introduction from the published work by the Electronic Literature Organization; (ii) a further two-stage introduction; and (iii) a brief Help guide. The remediation of print, as an example of “the representation of one medium in another” (Bolter and Grusin 44) evokes responses to the digital works associated with the older medium (See de Zepetnek 5-10). Moreover, remediation in this instance can be understood as a claim to authority. As the preface is adopted from print media, the referencing of this established and widely recognized media format calls upon the reception practices traditionally associated with reading printed texts. The remediation of the preface form historicizes the digital works and contextualizes their reading beyond the digital interactive material. The result is that the prefaces contribute to the regulation of interaction with the digital works by introducing older media practices. The remediation of the preface includes its paratextual form, which can be understood as the entrance or threshold to the work.

The paratextual is a defining element in the remediation of the preface in the digital works, by which I mean they are

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68 The prefaces to Dreamaphage are from the Electronic Literature Collection edition.
more than a boundary or a sealed border; the paratext is rather, a threshold, or – a word Borges used apropos of a preface – a vestibule that offers the world at large the possibility of either stepping inside or turning back. It is an undefined zone between the inside and the outside, a zone without any hard and fast boundary (Genette 1997 1-2).

The prefaces to the digital works also represent the lack of a hard or fast border. These prefaces follow tradition, according to how each “informs the reader of such facts the author thinks pertinent” in regard to its subject (Holman quoted in de Zepetnek 12). Furthermore, the preface to the digital work remains, “a commentary that is authorial or more or less legitimated by the author,” in a sense that is “monitory” (Genette 1997 197). Such monitory authorial prefaces set the boundaries for reading in the digital works, specifically by instructing the reader on interacting with the digital works.

I argue that the prefaces to the digital works are an “undefined zone” regarding the reader’s approach to the text. This “undefined zone” is itself the foundation for a spatial image delivered to the reader by the prefaces, as a space in the approach to the work and ‘entering’ the work itself.

The prefaces to the digital work establish a spatial system for negotiating the digital works in which the reader moves from the threshold of the preface towards a represented interior in the digital works. The preface is defined by a depth that is

69 The remediation of the preface form in the digital works is an example of “a spectrum of different ways in which digital media remediate their predecessors, a spectrum depending on the degree of perceived competition or rivalry between the new media and the old” (Bolter & Grusin 45).

70 The prefaces as marking the point from which the reader is “either stepping inside or turning back” (Genette, *Paratexts* 1-2) lend emphasis to the image of the text as having a depth, particularly an interior and exterior. This depth unifies the works as a whole and as a space.

71 The prefaces introduce the spatial dimensions of the digital works and as thresholds, opposes the idea that “the reader produced by the electronic reading machine will therefore be more inclined to graze at the surface of the texts than
the result of its status as the threshold to the work proper, and this structure contributes to the power of navigation to hold attention. To propel the reader into this spatial configuration the prefaces often give specific goals to the reader. These goals are locating the name spell in *Egypt*, the cure to the dreamaphage virus in *Dreamaphage*, and solving the relationship problems of Grace and Trip in *Façade*. As narrative contexts, these examples provide a sense of scale by situating the reader spatially in relation to the represented and representational spaces and their individual features in the works.

From the introduction of goals, the prefaces present the digital works as spaces for experience by the reader. Both of these, the works as spaces and the source of experience are premised on the suggestion the preface operates outside narrative and on the same level of the reality shared by the reader. Therefore the remediated prefaces structure the experience of the texts from outside their narrative perimeters (e.g. temporal settings and locations) as the “mediation of mediation” (Bolter and Grusin 56). By mediating what is essentially mediation (i.e. the digital works themselves), the prefaces position their subjects (i.e. the digital texts) in the world of the reader and on a paratextual level. As paratexts the prefaces deliver textual components outside the boundaries of narrative, and thus contribute to metalepsis, in the paratextual “contamination between the world of the telling and the world of the told” (Pier n. pag.). By identifying metalepsis in the prefaces, the spaces of the works become part of “the actual interaction between the text and the reader” (Kukkonen 18). The entry of the reader of the prefaces into the space of

to immerse herself in a textual world or to probe the mind of an author” (Ryan, *Cyberspace* 99). Rather, the reader progresses from surface to depth beginning with the prefaces and continues on in the design and addressivity of the works, as I show in the following chapters.
narrative in the digital works is part of interactional metalepsis, which is produced by “[d]igital and interactive media that require the user's physical interaction with its hardware and software” (Ensslin, Diegetic Exposure 11). In the contexts offered by representational space, interactional metalepsis is realized according to the potentials of interpretation and movement. In the prefaces the reader is prepared for the virtual books of Dreamaphage, navigating the structure of Egypt and its correspondences with the River Nile and the Osiris Myth, and the features of the apartment in Façade.

Along with the promise of interactional metalepsis, the prefaces transgress boundaries in relation to the space of narrative. In the prefaces the presence of a character or object is an example of ascending metalepsis by virtue of the paratextual. I contend the prefaces’ introduce this metalepsis outside the boundaries of narrative as a means for setting up perspective for interaction and the descending metalepsis that follows. Descending metalepsis is the backdrop for the focalization and perspective that position the reader within the spatial dimensions of the works. This two-stage experience of the digital works, as ascending and descending metalepsis, is expressed in the prefaces in relation to the spatial. A simple example of how the spatial is emphasized by ascending metalepsis in the prefaces is the promise, “your spell is in Papyrus 11” (Egypt). The ‘you’ that is assigned to the “spell” by the preface is the actual reader situated within the spatial structures and themes of narrative. In terms of descending metalepsis, the reader ‘meets’ characters and objects in the prefaces from the world of narrative. In this way the reader of

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72 As chapter one of this study explains, ascending metalepsis works “across media”, and “across narrative levels, when a character moves out of a fictional world and enters the real world, potentially encountering its authors or readers” (Kukkonen 3). On the other hand, “descending means the opposite, for instance when a narrator joins the world of his or her characters, or when a player delves into a game world using an avatar” (Ensslin, Diegetic Exposure 6).
the prefaces is introduced to the spaces of the digital works by her inclusion in the instructions for interaction.

In the prefaces the reader is introduced to the idea of inhabiting the text virtually. However, the name spell and its dedication in *Egypt* and the naming of the guest in *Façade* have also entered the world of the reader as descending metalepsis. Likewise in the prefaces to *Egypt* the reader is told that “the story encourages you to see the visual language of hieroglyphics and graphics, the aural language of music, and the kinesthetic language of movement” (*Egypt* “Reading the virtual manuscript” n. pag.). The reader is positioned in relation to the spatial by the papyrus trope of *Egypt*, where the work is referred to as “forty papyrus manuscripts” (*Egypt*). In *Dreamaphage* the reader becomes an avatar where “you” turn the pages of “a book” (*Dreamaphage*), and in *Façade*, where “the drama begins with you standing at their front door, able to overhear Grace and Trip arguing from inside” (“Behind the Facade” 2). Each use of the “you” in the prefaces promises the inclusion of the reader in the space of narrative in the works. The prefaces condition interaction by introducing the reader to specific elements from the narrative.

Thus the prefaces prepare the reader for interaction with the digital works by representational strategies that define the space of narrative. These strategies are grounded in the idea of remediation related to the preface form. From this remediation, as paratextual thresholds, the works are structured for interaction in an approaching experience that presents elements from the narrative world to the reader outside of narrative itself (ascending metalepsis) and sets up inclusion of the reader in the narrative world (descending metalepsis). According to this metalepsis, the spaces of the digital works are mediated in the prefaces as maps, metaphors, objects, images and instructions. While these are representations of space, they clearly have
representational consequences, particularly in relation to the role of the reader in interaction with the texts. I explore this introduction to the spaces of the works by first looking at the various prefaces to *Egypt*.

Figure 2.1: The Rubric of *Egypt* with a guide to navigation (left), a calendar and the sections (right) as well as traditional tomb decorations (stars).

*Space in the Prefaces to Egypt*

Maps represent space in the prefaces to *Egypt*, while representational space is introduced by a reference to the work as composed of papyrus and the promise of finding a personalized “name spell” (*Egypt*). The maps have a layer of representational meaning imposed by references to Egyptian myth. The myth introduces narrative elements outside the perimeters of the story in the paratextual. The result is an introduction of perspective and address that defines interaction with the work. In doing so, the prefaces to *Egypt* breach the traditional barrier between the narrative and the reader as metalepsis by offering an experience of the work not just as a story in relation to the myth and name spell, but as a space
shared by the reader and populated by characters, objects and images. I will now discuss how three elements – maps, name spell, and the image of papyrus – are introduced in the prefaces as components of the representation of space and representational space and these guide interaction with *Egypt*.

![Five maps prefacing Egypt, which present the course of narrative in represented space](image)

Figure 2.2: Five maps prefacing *Egypt*, which present the course of narrative in represented space

The five maps in the prefaces to *Egypt* are representations of space that present key points in the narrative in a linear sequence according to the course of the Nile. In relation to the story, the starting point is Aswan and its ending is Cairo. In the preface, these points combine with myth to become representational space in representing a journey along “the dreaming Nile from Aswan to the Delta” (*Egypt*). The “dreaming Nile” is a metaphor that extends the space of *Egypt* from the cartographic representation of space to the representational dimensions of narrative that are experienced through interaction. The journey along “the dreaming Nile” is a
representational concept imposed upon the represented space of the maps, which as diagrams lack the symbolic complexity of representational space. On the other hand, the mythical “dreaming Nile” is an example of how a representational space can “embody complex symbolisms, sometimes coded, sometimes not” (Lefebvre 33). The structure between the maps, the anthropomorphic metaphor of the “dreaming Nile” and reader interaction begins with the Nile as a spatial structure and an element of plot, centered on a series of places along the way to the point (Cairo) where the reader must either abandon the interactive narrative or repeat it.

This message from the Great Cackler is for

James Barrett

Your individual version of Spell 64:
The Spell for the Doorkeeper of the second Pylon
The following shall be said when one cometh to the SECOND PYLON. The scribe, whose word is truth, saith:
"Lady of heaven, Mistress of the Two Lands, devourer by fire,
Lady of mortals, who art infinitely greater than any human being." The name of her Doorkeeper is Mes-Ptah.

Figure 2.3: The name spell from Egypt: The Book of Going Forth by Day.

The prefaces to Egypt breach the barriers of the represented and enter the world of the reader as representational space. The space of the “dreaming Nile” expands with reader interaction to include “the Ka and the Ba of the narrator as she follows the dreaming Nile” (Egypt). Representational space is thus grounded in the Ka and the Ba – all elements from Egyptian mythology. The reader experiences these spatial features as access points to the narrator (as I discuss in chapter five as the focalizer of the narrative). Thus
reading moves in the preface from the representation of space in the maps to the representational space of narrative in the symbolic (i.e. the Ka and the Ba). These concepts in their association with ancient Egyptian mythology do not represent space in the way the maps do, which is as dimensions, distances and actual places. The combination of represented space and representational space, moving between the maps and the mythology orientates the reader to the movement back and forward between the material interface and the symbolic layer.

The name spell is a virtual object offered to the reader in the prefaces but outside the contexts of narrative. In my case, this name spell reads: “James Barrett: your spell is in Papyrus 11” (see Figure 2.4). The effect of the name spell is that the reader is given a symbolic and unique position in relation to the space of the work. In Egypt, the name spell is an example of ascending metalepsis, where it leaves the fictional world and enters the world of the reader based on the promise of a quest and interaction with the work. Here the prefaces to Egypt direct the reader according to the “ancient Egyptian practice” by which each text is “individualized for each recipient” (Egypt). When the reader finds the promised spell, this note greets him: “This message from the Great Cackler is for James Barrett/Your individual version of Spell 64” (See Figure 2.3). The name spell references the ancient Egyptian funeral practice of creating mummies with spells and verses wrapped in the bandages. Once again, finding the name spell does not bear any relevance to the narrative outcomes of Egypt, but it does create a context for reader interaction. This interaction is profoundly spatial in how searching is based on navigating through the work, in search of “Spell 64.” This quest is a variation of aporia and epiphany, or the “pair of master tropes [that] constitutes the dynamic of
hypertext discourse” (Aarseth, Cybertext 91). However the search and discovery of aporia and epiphany are not explicitly connected in this “dynamic of hypertext discourse.” By exploring aporia in the contexts offered by the spatial it becomes an element in narrative.

The name spell in Egypt operates in conjunction with a quest element, with the purpose “to guide the user through the Underworld” (Egypt Website). In doing so, a mythological topology is referenced by the preface – “the Underworld” – where locations are made symbolic in the space according to myth. This topology reflects the represented space as depicted in the maps, but in relation to the name spell it operates on the level of the symbolic, drawn from myth but not related directly to the narrative of the text. The mythical contexts evoked by the name spell also provide a goal in the reading of Egypt. In the narrative of Egypt, the quest is adapted from the myth of Osiris in the search for an ancient “silver coffin” (sarcophagus) down the length of the River Nile. The name spell is a promise that

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73 As the name spell is not related directly to narrative outcomes, it makes the work an individual and almost private document in a reference to the prepared ancient Egyptian funeral texts also mentioned in the preface to the work.

74 The myth of Osiris included his murder and dismemberment with body parts scattered at sacred locations around Egypt (See Pinch 79).
gives the reader an impetus to navigate the work as a space. In this promise, the reader is made aware of a much broader intertextual tradition than just the quest. The association between space (quest and navigation) and narrative is united in how “two sources inspire this work: the unity of word and world and the multiplicity of meanings in the symbols that represent this synthesis. These are found in the landscape of Egypt – the regularity of the river, earth and sky – also in the language of Egyptian hieroglyphs” (Egypt). The unity of word and world, or object and meaning, indicates the work as a designed and meaningful space. Any subsequent navigation of the spaces of Egypt is tied in the prefaces to the imagery of the Nile and landscape of Egypt on a representational level, infused with mythological symbolism.

The papyrus and name spell differ from the representational elements of space, in that they are object-related; they are things rather than strategies or ideas related to narrative or reading. In the case of papyrus, it provides an image for navigation in the 40 sections of the work, which must be read in ‘correct’ order for the story to be coherent. The name spell, its quest and the reading of the work from papyrus are example of “tropes [that] deal with meaning, not with word order” (Walker Rettberg 168), as each relates meaning at the level of context but not to narrative. The preface introduces the reader to the representational space of Egypt by referencing the text as a product of the narrative world. This portrayal is as “papyrus” and includes references to ancient Egyptian architecture. The reader is instructed in the “Papyrus Sections” (See Figure 2.5) to “Click on a Narrative Segment to visit panels representing days in the manuscript” (Egypt). Thus the reader is introduced to the imagery of mural writing in ancient tombs, the digital segments of Egypt become “panels” in the preface (Egypt). The preface states that these panels are accessible
through “the Secret Door”, which is actually another preface to the digital work (*Egypt*).

The panels, secret door and papyrus represent an obvious spatial configuration, suggestive of reader movement, which is adopted from the narrative world. The segments of the work are implied as architectural and that share the symbolism of the historical, monumental, archeological and mysterious contexts that are adapted from the narrative settings. These elements are introduced to the reader from the threshold represented by the preface, as a border zone between the narrative world and the extra-diegetic world of the reader. Thus simulation and interactivity are portrayed according to the papyrus, panels, doors etc. taken from the world of the narrative. This imagery strengthens the spatial configuration of the work in relation to reader interaction. In the preface the meanings associated with the papyrus and name spell tropes merge with metaphors of tomb architecture, positioning the reader as a navigating explorer, very much in the sense of excavating a recently
discovered ancient labyrinth or traveling down the Nile. Both of which are elements of plot in the narrative of *Egypt*. The design of *Egypt* goes on to further exploit these associations by dividing the representational space of the text into ancient and modern, as I will explain in chapter four.

The prefaces to *Egypt* offer representations of space as meta-media that govern all interaction, including reading and navigation. The references to Egyptian mythology in the prefaces to *Egypt* are an example of this meta-mediation. The preface to *Egypt* first represents space according to the remediation of “the visual language of hieroglyphics and graphics, the aural language of music, and the kinesthetic language of movement” (*Egypt*). These elements draw heavily on ancient Egyptian motifs in narrative and are profoundly spatial (i.e. the dimensions of the visual, audio and movement). Each operates as representational on the level of narrative by engaging with an imagined connection with space in the ancient contexts (i.e. visual, aural and kinesthetic).

The connection space and narrative is proposed in the prefaces to *Egypt* by such explanatory references as, “because the Egyptians saw the world itself as an infinite page, the text for *Egypt: The Book of Going Forth by Day* can be visualized as written on extensive, four-dimensional, vertical and horizontal panels, in an imaginary manuscript” (*Egypt*). This attempt to connect space and narrative via ancient Egyptian architecture can be understood to correspond to how,

> “the temples in ancient Egypt were often connected two-dimensionally (on one wall) or three-dimensionally (from wall to wall and from room to room), and this layout allowed a nonlinear arrangement of the religious text in accordance with the symbolic architectural layout of the temple” (Aarseth, *Cybertext* 9).
A similar space is referenced in the symbolic architecture and ancient writing in the prefaces to *Egypt*. Within this referencing of architecture, the co-creation of the reader underwrites the entire logic of the prefaces to the digital text.

In summary, the prefaces to *Egypt* prescribe how the reader can “see the visual language of hieroglyphics and graphics” (*Egypt*). This approach results in organizing reader interaction. These representations of space focus on the material in diagrammatic and descriptive images. On the other hand, representational space in the prefaces is not descriptive but is experienced, which occurs when space and narrative are combined to position the reader in relation to both (e.g. “the Dreaming Nile”). In the prefaces to *Egypt*, this blending of representation and representational space creates an interactive space for the reader. The overall progression through the text as a space is described according to the path of the Nile, primarily as representations of space in maps, a lexicon, images and descriptions of historic locations along its course. These features in the contexts of the maps are represented diagrammatically, with emphasis on certain points within that space. Beyond the representations of space, the prefaces to *Egypt* also feature narrative tropes, such as “the Dreaming Nile”, which add a narrative layer to the maps and create representational space. The prefaces thus draw upon the antiquity of *Egypt*, its myths and its topology to introduce and guide the reader in these representational spaces.

*Space in the Prefaces to Dreamaphage*

A similar relationship between space and interaction is depicted in the prefaces to *Dreamaphage*, albeit one that relies more heavily on the monumental. The preface to *Dreamaphage* guides the reader towards the goal of the cure “hidden in the dreams themselves” (*Dreamaphage*). This cure is said to reside
in the dreams of the characters, where “all other methods are errors. The words of these books, their dreams, contain the cure” (Dreamaphage). The preface goes on to describe Dreamaphage as containing hidden elements within its spatial structures, including “dozens of hidden buttons and lost texts” that are “leading to the books” (Dreamaphage). These emphasized material points – buttons, objects, lost texts and the books – represent stages of interaction with the designed space of the text moving toward (“leading to”) goals. Within this interaction navigation operates around a system of monumentality in the prefaces to Dreamaphage. For example;

In this quote, the author voice introduces the space of Dreamaphage as a structured hierarchy that is only understandable through navigation. This navigation responds to emphases of the “3-dimensional” space in the works as the “layering of stories,” with the text divided as a representation of space and as representational space, both as an object (“the turning page interface”) and as a narrative (“different dreams”). The central point in the spatial relationships represented in this quote is the reader, who is being led “to the books” by repeated virtual objects (“stories, poetry, science and multimedia playthings “), which shift as a dimension of navigation according to the “floating depth framework” (Dreamaphage). Such a shift creates a sense of transversal that dominates interaction with the work, while space is established as symbolic in relation to interaction with the virtual objects. The preface thus portrays Dreamaphage as composed of emphasized
points/objects that provide a spatial framework that leads to the books. At the same time on a representational level these books are “dreams” and operate on the level of the symbolic.

The preface to *Dreamaphage* represents a “3-dimensionality” and describes a representational space populated by objects that provide a “floating depth framework” (*Dreamaphage*). Within this representation of space, the representational elements begin in the preface with a statement attributed to “Dr. Bomar Felt,” where the reader is asked: “where is the pattern? In sleeping the same dream again. How long before I become another lost?” (*Dreamaphage*). An emphasis on “the pattern” suggests that navigation in *Dreamaphage* is related to the tropes of the dreams and being lost/found, which is an example of representational understanding (i.e. conceptual and symbolic) imposed upon the representation of space (i.e. “floating depth framework”). In the same preface text, Dr. Bomar Felt speculates if “the dreams themselves might hold clues to a cure. Perhaps this is where we should start” (*Dreamaphage*). The dreams thus structure interaction as narrative components to be realized through interaction with the spatial. At the same time the narrative components are presented to the reader with the suggestion “the dreams” are the means to achieving the goal of the cure. However, there is no cure presented in the narrative of *Dreamaphage* and the potentials of the prefaces can never be fulfilled. This unachievable goal can be contrasted with the detailed description of the space of *Dreamaphage* in the preface, which suggests its aim is to prescribe reader interaction on the level of narrative, often through the ergodic (i.e. navigation and as I explain in the next chapter, the haptic). In

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75 The spatial structure leading to the books is an example of a digital work having “the capacity to explore space as a potentially semantic element and to engage with depth and surface in a more explicit and complex way” (Schaffer and Roberts 40).
doing so, narrative is introduced from the perspective of interaction in the preface.

Figure 2.6: Dreamaphage as “floating depth framework”, showing layers and books.

The promise of “additional” materials in the preface of Dreamaphage is a further indication of the symbolic dimensions of narrative being linked to spatial navigation. Interaction with the (already mentioned) “floating depth framework” (see Figure 2.6) depends on feedback created by “clicking on the red words within the books will open new windows to reveal additional aspects of Dreamaphage” (Dreamaphage ELO Preface). This “click and drag” interaction with the ergodic elements portrays reader interaction via navigation, whereby clicking on highlighted words reveals content. There is a temporal progression in this description, beginning with clicking and ending with access to “additional aspects,” which is experienced by the reader as movement and depth. This same attention to the mechanics of the ergodic is present in all the prefaces described in this study.76 However,

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76 For example, interaction and agency in Egypt are defined by compliance with the design of the artifact in preface statements such as “Please use the pencil cursor to click on the buttons for each fragment of text” (Egypt Description).
each of the works aligns mechanical interaction with narrative outcomes in different ways. In the case of *Dreamaphage* the reader does not just navigate a represented space of points and coordinates to access the materials of the work. Rather, the dreams, the books, Dr. Bomar Felt, the quest for the cure, and an underlying threat of “becoming lost” qualify interaction via a representational layer in space, which is imposed upon the represented coordinates of the “3-dimensionality” (*Dreamaphage*). This representational layer is further strengthened in the preface by references to objects that are interactive and iconic.

The prefaces to *Dreamaphage* depict interactive objects as iconic signs that contribute to representational space. These objects are not goals according to how they are introduced in the prefaces, but are rather presented as the components experienced by the reader. These objects are the six virtual books, also called “texts” in the preface, which are three-dimensional virtual objects complete with covers, lines of type and pages that can be opened, turned and closed. The reader is instructed to “move forward and backward along the tunnel, clicking on texts and elements to explore them further. When a text has been selected, click and drag the upturned page corners to turn the pages of the book” (*Dreamaphage* ELO Preface). The description of movement as “forward and backward along the tunnel” and the haptics of “drag[ging] the upturned page corners to turn the pages of the book” orientate the reader towards a first-person avatar experience of a space filled with virtual objects and that responds to ergodic manipulation.

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77 I return to discussing the form in *Dreamaphage* in the following chapter on how space controls interaction through design.

78 The first person avatar perspective is where “the camera takes the position of the avatar’s own eyes, and is fixed with respect to the avatar. Therefore the player does not usually see the avatar’s body, though the game may display handheld weapons, if any, and occasionally the avatar’s hands” (Adams 412).
manipulation as the execution of reader agency in response to the material text. Thus, the reader of “the book” is positioned within a space that results from the ergodic. Once the reader begins to manipulate the books, the representational nature of the space (e.g. writing, images and the remediation of print) contributes further to the space of narrative (something I return to in chapter five). The “dozens of hidden buttons and lost texts” (Dreamaphage ELO Preface) referred to in the preface are further markers of a similar representational space that is defined by the objects that comprise it as iconic signs.

As argued, emphasized points (e.g. the books, hidden texts and “floating depth framework”) are the basis for represented space, but these points are only part of that space. The majority of the prefaces to Dreamaphage are narrative-derived elements dealing with “the dreams” and the role they play in the disease (“dreamaphage”) that is the dominant theme to the narrative. These representational elements are developed in a spatial sense and the result is an influence over interaction, such as when the reader is told in the preface “[o]f course isolating cases could be effective. But without a cure, this is merely providing a place to die” (Dreamaphage). The place “to die” is the post-plague abandoned hospital that I examine in chapter five. Furthermore, as a result of first-person perspective created through design (which I discuss in the following chapter), the place “to die” is where the virtual books are located and is also that place where the events they depict occurred. The “looping dream,” “insanity” and dreams as the “hiding”

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79 In the context of the preface as a paratextual attempt to direct reception, we assume that this is what the author considers the important qualities of the work. The implications of these descriptions include the reader sharing a physical space with the virtual books of Dreamaphage, which decides the temporal dimensions of narrative (as I discuss in the following chapter on design).

80 By extension of the spatial logic of the work, the reader is also located in the same space as the books. From the preface, the reader is about to enter this space from the paratextual border.
place for the cure are presented to the reader by the preface with a repetition of the idea that a quest could solve the problem (*Dreamaphage*).

Finally, the reader is asked, “How do we convince the public to remember their dreams?” (*Dreamaphage*). The answer is to write them down and it is at this point the prefaces end and the virtual books become the focus for the reader. The prefaces present this strategy for navigating the space of narrative (a combination of representations of space and representational space) not as information manuals but as thresholds to the story in the sense of an invitation from the author. The navigation of the work, grounded in representations of the space of *Dreamaphage* is categorized according to the representational elements, particularly in relation to the dreams. Thus, the prefaces portray the space of the text as symbolically rich and its material structure as controlling interaction.

To summarize, once again the *Dreamaphage* prefaces develop representational space from the objects that contribute to represented space, which is accomplished according to how these objects are symbolic. The objects are the books and the means for the reader to access the “dreams” (*Dreamaphage*). In turn, the dreams/books are emphasized in the prefaces as the source of a possible cure for the mysterious virus from which the work takes its title. The second major way the represented elements of the preface create a sense of representational space for *Dreamaphage* and subsequently interaction in that space is through the perspective created by the objects. The books are three-dimensional virtual objects that can be manipulated according to the remediation of the book as a media form. I shall return to this second point further in the following chapter on design. The “lost texts” and the suggestion of a cure in the prefaces contribute to the representational dimensions of
**Dreamaphage.** The non-narrative character (“Dr. Bomar Felt”) in the preface signifies (i) the disease and its consequences (i.e. “become another lost?”) (*Dreamaphage* n. pag.), and (ii) the navigable structure of the work centered on the books. In this way, space is presented in the prefaces to *Dreamaphage* as a means of structuring the experience of the text. As a result, interaction with the text is subject to the conditions imposed by the spatial. From this interaction, representational elements are established as the symbolic components of narrative.

**Space in the Prefaces to Façade**

The prefaces to *Façade* continue the combination of representations of space, overlaid with themes and perspectives from representational space. In the prefaces to *Façade* this representational space includes a symbolic interior of the characters in *Façade* as the site of their feelings, which is both a goal for the reader and an influence over narrative. Related to this perceived depth is the notion that the characters are given interior, even psychological, lives.\(^{81}\) Thus, a spatial center to narrative is established that is purely representational and the prefaces imply as a goal accessible to the reader via compliance with the ergodic elements of the work. This compliance with the ergodic in the prefaces for representational ends is portrayed as governed by the spatial configuration of *Façade*. Thus the interior of characters introduces this spatial configuration, but it reaches its highest level of structural sophistication in the introduction of the apartment in the prefaces.

In the authorial preface “Behind the Façade”, the reader is instructed to experience a “global agency that is a real influence on the overall story arc, over which topics get brought up, how the characters feel about the player over time and how

\(^{81}\) I return to the idea of interiority in the characters of *Façade* in chapter five with a brief discussion on the role of the Artificial Intelligence (AI) components in the addressivity of the spatial.
the story ends” (“Behind the Façade” 2). How the characters may “feel about the player over time” introduces the concept of the reader interacting with the interior emotions of characters. “Behind The Façade” maintains the spatial image of an internal dimension to the characters by directing the reader to navigate “what’s going on inside the artificial intelligence (AI) of the characters” of Façade (“Behind the Façade” 1). By presenting an interior to characters, the preface “Behind the Façade” suggests a division between exterior and interior, which is first indicated in the preface by the sub-title to the preface, “Delving Deeper Behind the Façade” (“Behind the Façade” 6). In the subtitle, the suspension of disbelief traditionally associated with fiction becomes part of the material artifact, whereby getting to the center of narrative demands a breach of the ‘façade’ in the characters, Grace and Trip. This movement towards an interior and center has a spatial logic associated with it that dictates the deeper one goes into the work, the more one learns of the characters

Narrative and space are linked in the Façade prefaces through references to the apartment where the entire drama is set. By directing attention to the apartment, including the objects, architecture and characters within it, the prefaces introduce the reader to the materials of narrative, while at the same time prescribing a hierarchy of ergodic elements. From the website that offers Façade as a download, the reader is introduced to the time, setting, action and characters of the story:

During an evening get-together at their apartment that quickly turns ugly, you become entangled in the high-conflict dissolution of Grace and Trip’s marriage. No one is safe as the accusations fly, sides are taken and irreversible decisions are forced to be made. By the end of this intense one-act play you will have changed
the course of Grace and Trip’s lives (Façade FAQ n. pag.).

This quote establishes the representation of space of Façade in terms of setting (the apartment), but the representational elements are the greater foci by way of the characters (Grace, Trip and “you”), the action (conflict), and the goal (change the character’s lives). The material configuration of the apartment, as the space where “sides are taken,” is further defined in the preface as a location by the objects within it.

In the preface, object/location relations are introduced by passages such as “Grace, very unhappy about how badly the trip went, either tries to woo you over to the couch, or if the tension is medium-high, wants you to go look so she can use it as a way to strike out at Trip” (“Behind the Façade” 15). By emphasizing the features of space associated with a character, the narrative is introduced as encompassing addressivity, which I discuss in detail in chapter five. Here the associations between characters and objects are emphasized in the Behind the Façade preface, which explains how Grace “has specific dialogue for the couch, the armoire, her sculptures, the large painting, the wedding picture, the view, the rug, and the style of the apartment in general” (“Behind the Façade” 14). The space of Façade is described according to the divisions suggested by these objects, which are assigned to a character and go on to become meaningful in narrative as signs and symbols as a result of interaction (which again, I will return to in chapter five). The dimensions of the space and its objects take on meanings that extend as far/deep as to be connected to the internal moods and emotions of the character/s. Thus space exerts control over characters as a dimension of the conflict, and features such as the couch influence reader interaction and determines narrative outcomes. This division goes on to become a significant factor for interpretation and response.
to *Façade* as part of interaction, which I will discuss in the following chapters on design and address in the works.

In the prefaces to *Façade* spaces are introduced according to their objects as determinants of interaction and narrative. According to the preface, “the drama begins with you standing at their front door, able to overhear Grace and Trip arguing from inside” (“Behind the Façade” 2). It is from this point, with “you” outside the front door, that the major narrative theme (drama) is introduced, along with the location (apartment) and perspective (first person avatar). The perspective from, “you standing at their front door” introduces a virtual object (the door) that must be negotiated and that leads to a development in narrative. Successfully negotiating the virtual door and moving inside to the space where the events are set is the first goal of the reader. The negotiation of the door is part of the broader representational goal of *Façade* of “going deep” (“Behind the Façade” 29), and by doing so gaining entry into the space and ultimately knowledge of both the characters and the text itself. To explain how the reader can move towards this representational interior, interaction is cloaked in references in the prefaces to programming:

> At any one moment, there is a current self-realization score being focused on (one of 9, listed earlier), which as mentioned earlier is comprised of a story theme (one of 3 – AA, MF or RM), and a character focus (one of 3 – Grace, Trip, or their relationship). If choosing a therapy game test to perform next, the beat tries to pick a test that stays within the current score’s theme and character focus, allowing the narrative to stay coherent for stretches of time, and effectively “going deep” on that particular combination of theme and character focus. (“Behind the Façade” 29)

In this long quote, the objects offer the reader an interactive structure based on pre-determined themes to produce a coherent narrative. These themes include “AA (artist advertising)”, “MF
The reader introducing “character focus” in relation to one of the objects results in “going deep”, which moves from the initial introduction of the theme to its conclusion/exhaustion according to the pre-programmed content of the text. Narrative and design are therefore united by the virtual objects depending on what each signifies in the contexts of narrative. Spatial dynamics can thus be understood as a determinant of interaction, often centered on an object.

The significance of objects, such as “the couch, the armoire, her sculptures, the large painting, the wedding picture”, is depicted in the prefaces to Façade as meaningful as they relate to the characters (“Behind the Façade” 14). However, the pairing of characters with objects only becomes meaningful according to the broader themes (i.e. “AA (artist advertising), MF (materialism façade)” Façade). In the prefaces, these objects are not emphasized, but instead are described as parts of the experience of the text, such as how it “is intended to feel natural: using the keyboard you can say anything you want at any time, and with the arrow keys and mouse you are free to move, gesture and use objects as you wish at any time” (“Behind the Façade” 3). It is significant that this pairing of characters with objects is not explained as a narrative dimension in the prefaces, but rather as a spatial one, for example, in the instruction that “you are free to move, gesture and use objects” (“Behind the Façade” 3). The space that emerges from this interaction is identified with a predetermined narrative, (e.g. the “evening get-together at their apartment that quickly turns ugly”), but the processes that create it are depicted as “natural” interaction. Here space is described as inhabited by the reader, as shown in, for instance, how “playing Façade is like being on a small theater stage” (“Behind the Façade” 3). The trope of the stage thus provides an emphasis on performance, but it does not offer any practical details about how
the space becomes the setting for narrative driven by interaction with the ergodic components (i.e. the virtual objects) of the work.

Alongside the objects, representational space is developed by the prefaces to *Façade* in the provision of a name for the reader. The choice of a name is an example of descending metalepsis that incorporates the reader into the space of *Façade* and its interactive properties. This incorporation begins in the prefaces with the instruction, “Please Choose a Name / type the first letter / scroll with the arrow keys / press enter to begin” (*Façade*). The name is chosen from a gender-specific list of ninety-five possibilities, of which fifty-two are masculine and forty-three are feminine (see Figure 2.7).82 The name becomes the symbolic presence of the reader, anchored in first-person avatar perspective within the space of narrative.83 Once the reader has

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82 The names include “Chris (masculine)” and “Chris (feminine)”, “Nat (masculine)” and “Nat (feminine)”, and are weighted to favor the presence of a masculine guest by 9.47% (*Façade*).

83 The only way to negotiate *Façade* is via the avatar of the guest, which is represented in the text by the name, a first person visual perspective, a chat function and a disembodied hand. Based on these attributed the avatar in *Façade* follows the definitions of the game avatar first person perspective, according to Adams (412).
chosen a name, it becomes the focal point for all interaction with the text and in doing so it connects the reader with the space of *Façade*. With the selection of the name, the reader is first introduced to the character he or she plays, and this becomes the point of address and focus for navigational structures that define interaction with *Façade*.  

The name determines address in *Façade* according to gender, which I argue goes on to play a role in how the text is interacted with spatially. The preface addresses the reader directly to establish this first-person perspective by stating, “You, the player, using your own name and gender, play the character of a longtime friend of Grace and Trip” ([Interactivestory.net](http://Interactivestory.net)). Thus, this first person perspective includes name, gender, along with the visual and spatial field of the avatar that comes with it. Via the name selection, gender is also made a feature of this representational space. Finally, the name is an example of descending metalepsis in how it represents the reader in the fictional world as the character of the guest (See Kukkonen 224).  

The presence for the reader created by name selection includes the limitations that emerge in *Façade* built upon stereotypes related to gender, such as heteronormativity, which as I explain in chapter five are a determining factor in narrative. These are coded and structured elements that are not considered in the prefaces to *Façade*, perhaps due to the attempt to portray a transparent and therefore ‘natural’ narrative experience premised upon interacting with the work.  

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84 As I discussed in chapter three, focalization is constructed in *Façade* based on the name selection in the prefaces.  
85 I go on to explain how gender representations contribute to representational space, interaction and narrative in chapter five.  
86 The name limits reader interaction according to the representation of gender in *Façade* despite the claim that, “in terms of the plot, it doesn’t really matter which name or gender you choose; all that gender really affects is the details of how they react to flirtation” (“Behind the Façade” 12). The lessening of the role of gender complies with the general tangent taken by the prefaces to *Façade* in how it is “intended to feel natural” (“Behind the Façade” 3).
states: “you will have changed the course of Grace and Trip’s lives – motivating you to re-play the drama to find out how your interaction could make things turn out differently the next time” (my emphasis, Façade Web n. pag.). Based on an address where “you” are promised the experience of agency and its results, the “reader recognizes that a narrative is being delivered” (Schofield 1), and is directly involved in the action.

The association of interaction with agency (how “you will have changed” the characters’ lives) is presented in the preface as a motive for co-creation, as it directs narrative purpose in the sense of goals towards the reader. This quest is another variation of aporia and epiphany, and it is once again presented as “natural” (“Behind the Façade” 3). But in this case an aporia that makes “things turn out differently the next time” (Façade Web) actually only results in a limited number of outcomes based on the realities of programming and the configuration of the text as a space.87 Within this structure the selection of the name stands in for a pre-coded identity in Façade as the guest/reader, which is constructed according to a particular heteronormative gender binary and is played out according to the representational spaces of the work.

To close, the prefaces of Façade describe a more complex form of interaction than that presented in the prefaces to Dreamaphage and Egypt, but one that is equally grounded in the spatial structure of the work. The emphasis on the spatial and visual dimensions of interaction in the Façade prefaces involves the reader in the concerns and perspectives of the characters. The result is two-fold: firstly in a reading that focuses on a similar combination of representation and representational space as is

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87 I refer here again to the “pair of master tropes [that] constitutes the dynamic of hypertext discourse” (Aarseth, Cybertext 91)
found in the digital works generally. Secondly, it establishes the conditions for narrative focalization in negotiating the components of the text. The use of the second person pronoun in the Façade preface represents an emphasis on the repositioning of “the referent of you flexibly between virtual and actual worlds, between intra and extradiegetic levels and between protagonist, characters, narrator, narratee, implied reader and actual reader” (Ensslin and Bell, *Click=Kill* 51). The resulting prescriptive approach in the preface has the reader as the guest “you” and proposes a similar presence between virtual and actual worlds, between implied and actual reader that creates the conditions for interaction and narrative. In the context of the Façade preface, the promise that relies upon “you” also positions the reader in the spatial center of the narrative action and settings. In doing so, an immersive narrative environment is introduced from which the reader is readied for the experience of the work. This environment is spatial, populated by agents and objects and requires combined responses to address, design and the ergodic. In this space, interaction is conditioned by the symbolism of objects and actions and the codes of representational space.

*Summary*

The prefaces of the digital works set up interaction with the texts according to the elements that determine the spatial. These elements are objects, characters, perspective, and haptics in the works. Reader interaction is prescribed in the prefaces’ according to emphases on key (monumental) elements in the works and the construction of space around a participating reader. These points result in the reader being depicted as a subject within the spaces of narrative in the prefaces, such as in

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88 The combination of the representations of space and representational space follows a model where measured and defined elements, such as found in diagrams and maps are first presented to the reader. Within the space, the reader encounters representational elements and a symbolic layer results.
the quests in relation to the name spell in *Egypt*, in solving the problems of Grace and Trip in *Façade*, or in finding the cure in *Dreamaphage*. In these examples, metalepsis positions the reader in the spaces of the texts and strengthens connections to narrative with tropes, such as the papyrus and spell in *Egypt* and the personal relation to the characters in *Façade*. These techniques draw the reader into a more profound engagement with interaction and the contexts of narrative. In this way, the prefaces are concerned with directing and controlling the introduction to narrative and interaction in terms of reader agency as qualified by the spatial dimensions of the works. The authorial prefaces imply that reader can attain agency, but I argue that the interaction outlined in the prefaces discussed here conceals the more established prefatorial logic of the paratextual and threshold function as described by Genette (*Paratexts* 2 197). In the prefaces, the freedom to explore the works is actually controlled by the contours and features of the works themselves experienced as spaces, for which the prefaces supply a plan and instructions from the perspective of the author/s.

The maps in *Egypt*, the descriptions of the “3-dimensionality” in the preface of *Dreamaphage* and the listing of objects in *Façade* are examples of the representation of space in the prefaces. These representations of space are concerned with measurements, dimensions and coordinates, and create the conditions for the introduction of the representational tropes. In the prefaces to *Egypt*, the “dreaming Nile” and references to “ancient Egyptian practice” impose such a layer of representational space upon the flat representations of the maps, the course of the Nile and the named historical locations along its course (*Egypt*). In *Dreamaphage*, the “floating depth framework” represented as space becomes “the 3-dimensionality of the different dreams” and the reader is
directed to explore the representational space as a participant in its structures and subsequently its narrative (*Dreamaphage*). In the prefaces to *Façade*, the apartment is represented as a space of conflict, where “sides are chosen” and the connections between the characters and objects within that space are indicators of representational space. However, much of the emphasis in the prefaces to *Façade* is on the integration of the reader into the experience of the text as seamlessly as possible (i.e. to “feel natural” (“Behind the Façade” 3). For this reason the prefaces do not just describe reader interaction with space but also focus on the progression of the story and the reader’s role in it. By suggesting the reader has the power to change “the course of Grace and Trip’s lives” (*Façade* FAQ n. pag.), the preface becomes a paratextual extension of narrative and the reader is thus engaging with the space of the story already as an actor “on a small theater stage” (“Behind the Façade” 3). In the prefaces narrative tropes that take up goals, with the reader as character, meeting characters and the negotiation of objects, mediate between the representations of space and representational space, with the result of introducing strategies for reading and narrative components to the reader.

The interaction represented in the prefaces is dependent upon virtual objects in various contexts: (i) the diegetic (such as the objects of *Façade* and *Dreamaphage*); (ii) the extradiegetic (such as the name spell of *Egypt*); (iii) the interactive movement between representations of space (maps, diagrams, links, layers etc.); and (iv) the representational space of settings, characters and events. These four systems of representation (diegetic, extradiegetic, representation and representational) are portrayed in the prefaces as the primary means for interpreting and responding to the digital texts in ways that will result in narrative coherency. Central to how the responses are incited by the prefaces to all these systems is the spatial
configuration of the texts. The various interactions between (i) the spaces of the works; (ii) the virtual presence of the reader in the texts; and (iii) the ergodic elements in the texts, continue within the structure of the texts themselves to influence interaction. The movements between representation and the representational is mediated by space and activated by the ergodic, which results in the completion of narrative composition as a dimension of interaction with the works. The reader, as I explained in the previous chapter, completes the addressive circuit created by the digital works.

Finally, the reader is positioned by the combinations of the spatial and remediation in the prefaces as a subject. Thus material and spatial features of the work are highlighted in the prefaces by emphases upon material and narrative elements. The personal name in Façade, the papyrus of Egypt, and the ‘cure’ in the preface of Dreamaphage are not concerned with getting the reader to a location in the text, as there is no cure or papyri and the name is as much a programming requirement as an element of the narrative. Rather these elements function as motifs in the prefaces, which guide the reader according to the spatial linkages they suggest. Removing any of these elements from the prefaces would result in a greater distance between the reader and the work, but without necessarily altering narrative outcomes. I therefore argue that any promises of the prefaces, such as Aarseth’s aporia and epiphany (1999 32), operate as descriptive monitoring of reading, to prepare the reader for the spaces of the works from a paratextual sense of authority. This authority is expressed spatially in the prefaces by referencing and portraying “a generally accepted Power and a generally accepted Wisdom” (Lefebvre 220). I continue to examine this monitorial proximity exerted by the spatial in the following chapter, where I explore the control that the material configuration of design asserts through spatial structure over
interaction and the formation of narrative. Following on from the prefaces, the design of the digital works includes remediation and a dynamic sense of movement between the representation of space and representational space.

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Design and the Representation of Space

This chapter examines the design of the digital works and explains how it contributes to the role of space in interaction and narrative. More specifically, I explore how the spaces of the digital works are designed to include monumentality, perspective (through the visual, layered, haptics and remediation) and the iconic, and the role these elements take in narrative development. I argue that these elements are spatial components that assert control over interaction. More generally, the design of the interface exerts control over narrative based on its contribution “to the meaning making process, which has dramatic implications for both the writer and the reader” (Odin 75). Design is described in the following analysis as “a temporal arrangement of space” in relation to a reader (Zoran 312). The reader experiences design through a space that is largely represented (as opposed to representational), and subsequent interaction is defined by, “the relations of production and to the ‘order’ which those relations impose, and hence to knowledge, to signs, to codes, and to ‘frontal’ relations.” (Lefebvre 33). The results of the relationship of the reader to represented space through design include the positioning within the works through perspective.\(^8^9\) I propose that interaction is an ordered response to perspective, monumentality and the iconic created in design.\(^9^0\)

\(^8^9\) This positioning in relation to the interface is what I interpret as the “‘frontal’ relations” of spatial production according to Lefebvre’s classification (33).

\(^9^0\) Such a movement between navigation (action) and interpretation is explained by Marie-Laure Ryan according to how “textualization becomes a narrativization when space is not described for its own sake, as it would be in a tourist guide, but becomes the setting of an action that develops in time” (Ryan 2009 423). The setting for action is representational space.
spatial. I then approach monumentality, perspective and the iconic as dimensions of design, through close reading the digital works, explaining the influence of each on space and interaction.91 I argue that monumentality in the digital works is an example of “not ‘stories’ but suggestive markings” that “trigger reactions” (Nitsche 2008 44).92 These “suggestive markings” include the strong points of monumentality, which organize the representation of space as a fundamental element in the design of Façade, Last Meal Requested, Egypt and Dreamaphage. Monumentality, as I explained in chapter one, is the organization of space where order focuses on “the strong points, nexuses or anchors” (Lefebvre 222). Such monumental points set up the so-called ‘frontal’ conditions for both navigation and interpretation.93 In conjunction with monumentality, virtual objects in the digital works operate as iconic signs for interaction.94 Additionally, remediation contributes to the representation of space, with references to earlier media forms setting up perspective and interaction. Such referencing produces a spatial perspective in the design of the digital works. In this way, design creates a spatial and temporal

91 For an account of the material meaning of design See Hayles, Posthuman 28, 98, 248 and Mother was a Computer 173, 182, 189.

92 Representational space is “directly lived through [by] its associated images and symbols, and hence the space of ‘inhabitants’ and ‘users’” (Lefebvre 39).

93 The inscription of meaningful elements in representational space in design can be related to how “users of cyberspace have bought into the ‘spatialized’ scenario, complete with its imperialists overtones, by using frontier framework” along with the “highlighting and re-inscribing [of] suburban values” in such representational spaces as The Sims (Flanagan 76). Flanagan’s argument takes up the re-inscription of values upon space that frame particular narrative possibilities. This is highly relevant to the present study.

94 The term ‘virtual object’ is used as early as 1992 in relation to, “real-time 3D volume data visualization” (Bajura 203). Virtual objects in the digital works follow a similar logic of operating in real time in responding to inputs, are 3D and visual.
point of view experienced in interaction, which contributes to both meaning and restrictions.95

As I clarify below, the material configuration of the digital works represented in design is spatial, according to monumentality, perspective and the iconic. These elements create a coherent system that is experienced as a spatial interface. In the design of Dreamaphage, there is a sense of first-person immediacy, albeit within a fictional space. In Egypt, design makes space meaningful by using audio to distinguish between different historical and colonial themes. Last Meal Requested is a designed space where the reader takes on the perspective of a witness in the contexts of historical oppression based on gender and ethnicity. Finally, in Façade perspective is experienced from the first-person point of view of the avatar, which is the primary force behind interaction and narrative. In these examples, design creates a space that both enables and controls interaction, according to codified and therefore prohibitive spatial techniques. Perspective, the iconic and the monumental combine in each to organize representational space according to the associated prohibitions I describe below. I argue these techniques restrict and therefore direct interaction with the works and result in specific narrative structures.

Design and Space in Dreamaphage

Six virtual objects that in form and design resemble printed books define Dreamaphage as a represented space (see Figure 3.1). In this sense the book is simulated in Dreamaphage, but like all simulations, “there always exists a gap between a simulated system and its simulation, and that gap always renders the simulation subjective to a lesser or greater extent”

95 Remediation, as already described in chapter one, is “the formal logic by which new media refashion prior media forms” (Bolter and Grusin 273).
This gap, and the subjectivity that emerges from it, make it possible for interpretation to become a formal part of interaction in relation to the ergodic dimensions of *Dreamaphage*. In *Dreamaphage* the physical actions of opening covers, turning pages and reading the printed lines of text enforce a first-person perspective experienced from “the position of the avatar’s own eyes,” which “is fixed with respect to the avatar” (Adams 412). The virtual books can only be read from this first-person perspective, which influences all subsequent interaction with the work.

Furthermore, the establishment of the first-person perspective positions the reader in a space that is shared with the virtual books. What this means is that by opening the covers and participating with the simulated structure of the virtual book, a common represented space is established. This space is

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96 This interaction which is defined by interpretation, resonates with Aki Jävinen’s “three reference axis [sic] of simulation” (2003 n. pag.), as system, representation and interface. I argue the iconic operates within the axis of representation as “the sign layer that represents the system with (animated) images and sounds” (Jävinen 2003 n. pag.).
premised on the books as representing the events of the dreamaphage virus and as represented within the space of the events they describe. The reader is placed in this space by virtue of perspective and is compelled to interact with the digital work within the space of narrative. Along with sharing the space of narrative, interaction with the virtual books creates a space that can be interpreted in relation to narrative as well as interacted with. In order to explain how the design of Dreamaphage represents such an interactive space, I move my analysis of the text from its basis in simulation to the symbolic values present in the representation of space in the work, via the iconic as defining interaction.

The virtual books in Dreamaphage are monumental according to how they dominate the space. In fact the virtual books are the only feature of the space of Dreamaphage and it is only by interacting with them that the narrative dimensions of the work can be explored. At the same time the virtual books are limited in how they represent the book as an interactive medium. This representation is based on the partial resemblance to a source system. Resemblance in simulation “is to model a (source) system through a different system which maintains (for somebody) some of the behaviors of the original system” (Frasca 2003a 223). In Dreamaphage, elements of the source system (i.e. the print book) include surfaces, haptic manipulation and first-person visuals as well as a sense of spatial distance and depth around the virtual books.

Furthermore, this simulation pivots on the physical stance of

97 The iconic in the digital works becomes significant for the virtual objects in “a cooperation of three subjects, such as a sign, its object, and its interpretant, this tri-relative influence not being in any way resolvable into actions between pairs” (Peirce, Essential Peirce 411).

98 A further example of similar restrictions imposed on reading according to representational space is the use of audio in Egypt, where two different extra-diegetic sound tracks signify the movement between themes in the narrative. I return to the use of sound to demarcate representational space in chapter five.
reading by situating the imagined body of the reader in the represented space shared by the virtual books, which is outside diegesis but shared with its mediation. Therefore, design represents a space for the reader as the focalizer, between the virtual books and their body. Within this space the objects mediating the narrative (i.e. the virtual books) and the reader are both situated. By evoking the interactive properties of the printed book in this example of remediation, the virtual books guide interaction as a function of design.

The virtual books in *Dreamaphage* feature ‘pages’, ‘covers’, ‘Table of Contents’, lines of ‘print’ (See Figure 3.1, above), along with illustrations which reference established reception practices associated with print media. But, due to the underlying form of *Dreamaphage*, in this case Flash programming, the simulation is limited. The pages can only be opened one at a time and in an order beginning with the first page and ending with the last. In this way, the books are an example of the gap I have already explained that exists between a simulated system and that which it simulates (See Dormans 2008 n. pag.). Randomness has been precluded from reading. These limitations exclude the possibility for the reader to “learn how to participate in the construction of a text, searching in ways the author might never have anticipated, yoking ideas together which were to be located at different points in the work” (Rhodes and Sawday 2000 7). In contrast to the possibilities of a codex, the simulated books of *Dreamaphage* order the segments of narrative by controlling how the reader is “yoking ideas together” in reading. Such restrictions create narrative perspective whereby events occur in the same order and combinations. 99 In order to understand how the virtual

99 This point returns to the argument made in chapter one, which responds critically to the idea that “In simulations knowledge and experience is [sic] created by the player’s actions and strategies, rather than recreated by a writer
books become meaningful as interactive objects it is necessary to explore how space is made meaningful in design.

Symbolism is present in the simulation of *Dreamaphage* grounded in the restrictions of design. These symbolic dimensions can be explained by the iconic. Based on the same materiality that creates the conditions for simulation and how the reader experiences it, each of the virtual books conforms to the “more or less [the] overt character of its object” (Peirce 1931-58 4.531). The “object” the virtual books reference is of course the printed and bound codex. In the contexts of design the iconic works in conjunction with the simulative properties of the digital text. In referencing an object based on likeness, the virtual books include indices, page numbers, headings and table of contents, along with paragraphs and page borders (See Figure 3.1). However, as is consistent with simulation, the resemblance includes a limited functionality. The Table of Contents does not necessarily represent the contents of the books (See Figure 3.2). In addition, browsing is impossible as the virtual-book can only be read one page at a time in a single order of pages. Furthermore, titles are repeated and do not differentiate sections of the work, but only match with how they appear in the contents sections. In these ways, rather than accurately reflecting its object, the virtual books allow for a higher degree of subjective interpretation as iconic signs.

The final iconic technique that evokes the “overt character of its object” is the haptic properties of the virtual books. Haptics are techniques in digital design that simulate touch referentially rather than simulative and thereby link objects to the narrative within representational space. By this I refer to the gap between simulation and referent that intervenes or moviemaker” (Aarseth 2004 52). I contend that knowledge and experience are created through interpretation as a defining element in focused interaction. 100 For an account of the paratextual function of titles See Genette 76-85 (Paratexts)
at the point of interaction (See Dormans 2008). In this way the iconic properties of the virtual books contribute to the ordering of narrative events by initiating the co-creation of the space by the reader.

![Virtual-book with animation layer moving around it.](image)

The conceptual step from interacting with the screen to ‘reading a book’ can be made because the reader recognizes the representation of the spatial, such as covers, pages and lines of type. Once the reader is haptically interacting with the virtual books according to the iconic, then a spatial set of conditions emerge. These conditions include sharing space with the virtual books. The virtual books have been produced from the narrative world they describe, and the time they represent is just prior to the reader opening the first one and reading it. As I discuss in the following chapter on address, the spatial properties of the virtual books position the reader in this temporal relationship to the narrative as a result of the avatar first person perspective of Dreamaphage and its interactive properties. At this stage of my analysis, I describe how the reader is incorporated into the represented space of Dreamaphage by the design.

The design of Dreamaphage includes animated shapes that move off the virtual pages and into the space around the virtual books (see Figure 3.2). The effect of this movement is
comparable to a *trompe l’oeil* visual technique, in which the perspective represents the reader within the space around the virtual books on the screen.\(^{101}\) This depiction of movement uses depth to alter perspective and represents the reader as occupying a space with the virtual book. The virtual books are separated from the space around by frames (i.e. cover, bindings, pages etc.). By expanding off the page the animations create a spatial link to the presence of the reader, whose body is logically implied as located beside the book in the stance of reading.

In this case, the virtual books rely on remediation in order to provoke particular responses to the digital work. The stance of reading is one such response according to the logic of remediation, which is grounded in the first-person perspective and haptic properties of *Dreamaphage*. This perspective is necessary to operate the text as I have already described. As a result, the inclusion of the reader in the space also occupied by the virtual books, breeches the traditional space of narrative. This transgression is suggestive of a descending metalepsis as a product of the representation of space. Within this space of narrative, elements “quickly overwhelm[s] the space of the monitor, as the letters and images pour into the invisible spaces beyond the frame and thus control of the user” (Jacobs n. pag.). By setting up a perspective that includes the reader, the programmed movement of shapes into the space around the virtual books compels her to be part of the space of narrative.

In the contexts of the represented space, the movement of the animation out from the pages of the virtual books is an example of material descending metalepsis. This movement transgresses the traditional separation of represented (the books as objects and the space they are in) and the

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\(^{101}\) According to the *Encyclopedia Britannia*, *trompe l’oeil* is “the representation of an object with such verisimilitude as to deceive the viewer concerning the material reality of the object” (*Britannica Online* n. pag.).
representational (the contents of the books). As a result, by expanding beyond the frame of the virtual books, the animation “marks a rupture between what are normally perceived to be strictly separate ontological spheres” (Ensslin, Diegetic Exposure 6). In this case the “strictly separate ontological spheres” are, firstly the representative status of the work (including diegesis) and the reader and secondly the addressive components I take up in the following chapter. As I have explained, the reader occupies a point within the space of the larger work between the represented and the representational via interaction under the influence of perspective and the iconic. This rupture between the reader and representational is accomplished in stages beginning with the books as representing the space of narrative as a strategy of design.

Finally, by approaching form as symbolic in digital literature it becomes possible to understand the role of space in interaction. The result is the spatial becoming a meaningful dimension of narrative. For example, the virtual books of Dreamaphage are symbolic and interactive by virtue of their form and the resulting possibilities engage the reader at the level of narrative. The movement of images off the virtual pages is a further example of the material symbolic, or how the “concealing and revealing offer fertile ground for aesthetic and artistic exploration” (Hayles, Mother 54). The movement from the surface of the book to the surrounding space is essentially a material, and at the same time, a symbolic dimension of the text. The books take on a depth perspective in the movement of the animated forms. The resulting depth is a spatial link between the reader and the world the virtual books represent, and from this juxtaposition, interpretation can be developed as a product of interaction. This same spatial representation creates a position for the reader within the material structure of
the work as a representational space (which I return to in chapter five).

To summarize, the role of virtual objects in the representation of space influences interaction with *Dreamaphage*. Interaction is grounded in design, specifically in one that results in a first-person avatar perspective that ultimately produces a sense of space shared by the reader. The simulation of a book in *Dreamaphage* references print mediation, on a limited scale as a simulation, but enough to be recognized as an iconic referencing to it in reading. This reference defines interaction with the work. If we consider remediation as “the representation of one medium in another” (Bolter and Grusin 44), the influence it has upon the reception of *Dreamaphage* is to evoke older media in digital contexts. However, once the system of spatial relations associated with the older media is established, it does not explain how the virtual books themselves convey narrative meaning. In order to understand how the virtual books are meaningful within this designed space, the role of iconic signification is relevant, which I take up further in the following chapter. I now turn to the design of *Egypt* and how it includes the reader in the representation of space as a precondition for interaction.

*Designing Space in Egypt*

The design of *Egypt* is a further example of how the reader is incorporated into the space of the digital texts based upon the potentials of interaction. In *Egypt*, this presence of the reader is most clearly demonstrated by the use of audio. The audio of *Egypt* divides the space of the work into two basic time periods, the contemporary and the ancient. Furthermore, this space is represented in its references to the colonial

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102 The perspective of the first-person avatar goes on to function as a focalizing structure in narrative, which I take up in the following chapter.
(Imperial/European) and the colonized (African). From the perspective of the reader, the characters move through the space and act according to the overarching themes associated with the divisions. Where modernity is represented in narrative through a city location, such as “the nightlife of Cairo” (*Egypt*), and in references to mystery and quest, the music of pan-Arab, Egyptian singer Oum Kalthoum (1900-1975) dominates the work’s total representational space (*Egypt*). However, the majority of the audio of *Egypt* is from the CD, *Sounds from Ancient Sources* (1998), by Douglas Irving (*Egypt*). The music of Irving dominates where the ancient is represented (e.g. tombs, Osiris myth, ruins and archeology) as an imagined recreation of Ancient Egyptian music. The contemporary settings that are dominated by African characters, such as in the “vaguely African streets of Aswan,” or in the anachronistic “dusty one-room Aswan International Airport” and on “the Isle of Fire,” likewise feature the music of Ancient Sources (*Egypt*). This audio is not directly related to diegesis, but distinguishes between historical settings. It is in this sense that the reader shares the space of the narrative as a result of the audio.

The audio of *Egypt* guides navigation as an auditory icon within the structure of representational space. For instance, the movement by the reader from the African streets to the colonial Old Cataract Hotel is differentiated by the audio that accompanies it. The opening ‘papyrus’ of *Egypt* is accompanied by music from *Sounds from Ancient Sources*, but in the next section there is no audio when the reader is introduced to the

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103 Aswan Airport (ASW) is actually a modern international hub of arrivals and departures that services up to 864,223 passengers in a year (*Egypt Tourism Authority*)

104 As I discussed in chapter one, auditory icons “acknowledge how meaning is encoded in sound with the construction of a sound object that is sounded whenever a particular event occurs in the digital system of which it forms part” (Grimshaw and Schott 476).
narrator (still in the United States) by being told, “[t]he journey of life seems to flow on a river of continuity and change” (Egypt). By clicking on the link to the third papyrus from the name “Ross,” the reader again enters the space of narrative via the Sounds from Ancient Sources CD. Ross is in this space too, “taking a voyage down the Nile” and the narrator tells the reader, “a week later I emerged into the dusty one-room airport at Aswan on the first cataract” (Egypt). The music remains ‘ancient’ until Ross and the narrator are again in a ‘civilized’ space, at the Old Cataract Hotel where silence means only the visual text is negotiated. Here Ross is in “the Moorish-style bar” and “looking like his old self” (Egypt) in a colonial setting. The emphases and binary nature of the audio in Egypt in the representation of the ancient and modern suggests the monumental status of the audio in defining space.

The music of Oum Kalthoum is first used when the narrator and her party land at Abydos and then audio returns again when she arrives in Cairo. Kalthoum sings as the narrator visits the pyramids at Meidum with Ross, where the entrance to the pyramid is compared to “a door into all the time of the past, circling in the still air, time present and eternal” (Egypt). It is precisely this collapse of time into the present that the interaction with the digital work represents. Each moment inside this “sonorous envelope” (Goodale 69), is the first time the action has been undertaken according to the temporal point represented by the audio. The audio first demarcates the diegesis of the work, as a sonic environment surrounding the reader. Once they are within this environment, the reader is directed by the audio that divides up the space according to its historical and mythological contexts and underlying themes. The designed space of the works is thereby a represented structure that includes the audio samples. Spatial orientation results from the audio in Egypt, where the experience of the
reader is sequenced according to the representational binaries of ancient/modern, urban/ruin. Audio focuses the reader due to its immersive qualities, which suggests an inclusion in the space of narrative.

As I discussed in the first chapter, sound makes space meaningful in the digital works. In the analytical contexts visualized in Fig 2.1, sound as form is made meaningful by design. This meaning operates according to how sound contributes to what Grimshaw and Schott term “semantic listening” and “navigational listening” (477). By applying symbolism as “semantic listening” and “navigational listening” to audio in the spatial is can be seen to contribute to interpretation and ultimately narrative function in interaction. The audio of Egypt creates a sense of temporal orientation, where sequences of recognition (i.e. ancient, modern, urban, ruin) are arranged spatially. The audio in Egypt has immersive qualities but it is not a part of narrative. Instead the audio of Egypt is part of the representation of space, which positions the reader in relation to the space of narrative and thus sets up interaction at the representational level of the spatial. In other words, the music is part of the representation of space in how it adds to the experience of navigating the symbolic components of the work that I describe in the following chapter. This relationship between sound and reader navigation is quite different than the immersion of the reader in Last Meal Requested, where space is represented from the perspective of a witness.

**Designing the Witness in Last Meal Requested**
The design of Last Meal Requested positions the reader as a witness to the events depicted. This inclusion is grounded in a perspective that is an example of how “witnessing can be aural as well as ocular. Furthermore, those who receive stories
become witnesses once removed, but witnesses nonetheless” (Alexander 81). To illustrate this witness perspective, I examine the section in Last Meal Requested on ethnic violence, and in particular how it references the 1991 beating by Los Angeles police of Rodney King. This segment of the text is designed around elements that maintain a perpetual present. The looping of video as well as visual perspective and the overlapping images on top of written texts render the ethnically motivated violence depicted in the text structurally and temporally immediate. Interaction with this structure thus simulates the perspective of a witness, or in other words, it is an example of how media can create “witnesses once removed, but witnesses nonetheless” (Alexander 81).

The original hand-held camcorder video of the beating of Rodney King is rendered monumental in Last Meal Requested because it is the only repeated moving image in the space. This repetition creates emphases on the screen in the looped and multiple references to the video. In addition to this monumentality, the video is iconic, standing in for the actual video, which in turn stands in for the event itself. The small size of the video in relation to the space and as a five-second repeated segment adds to this iconic status. The dimensions and short duration of the video are enough to reference the original image sequence and the event, but it does not stand alone as ‘the Rodney King beating video’. Therefore the King image in Last Meal Requested can be understood as a reference to the ethnic and class divisions between authority and society.

105 This “witnesses once removed” has a precedence in the “virtual witness,” described as “the use of linguistic resources to produce a vicarious experience enabling a reader to confer agreement as though she had actually been present when an experiment was conducted” (Cunningham 208 citing Shapin & Schaffer 60-65). The technique of virtual witnessing arose in the early modern period with the effect of recruiting readers of natural philosophy into sharing the findings of ‘truth’ through sharing experiments linguistically. The digital texts set up perspectives and time in the interactive formation of narrative. Interaction relies on this shared perspective to convince the reader they have ‘done’ something.
in the southern central Los Angeles area at the time. From these general considerations regarding the King beating, a specific form of spectatorship emerges in the space of Last Meal Requested grounded around the use of the King beating video as a defining element.

The 12-minute amateur video by George Holliday of the beating of Rodney King by Los Angeles Police officers from 1991 is referenced in Last Meal Requested by two small rectangular looped five-second segments of the original film with each occupying approximately five percent of the total image surface (See Figure 3.3).

Figure 3.3: The two 5-second video loops (circled) from the King beating video in Last Meal Requested.

The King beating video is arguably the archetypal witness video, when one considers that “black bodies in pain for public consumption have been an American national spectacle for centuries” (Alexander 78). When the original amateur camcorder video of the King beating was made public

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106 The spaces that result from design in the digital works can be equated with the visual composition of the window, where “the computer screen is both a ‘page’ and a ‘window’, at once opaque and transparent. It commands a new posture for the practice of writing and reading – one that requires looking into the page as if it were the frame of a window” (Friedberg 19), according to perspective and monumentality and the iconic. A scene from a window can include monumental emphases upon objects that result in the viewer assigning significance to them within the overall scene.
it was shown on television internationally, and as I discuss more in the following chapter, it is today widely associated with the Los Angeles riots of 1992 that followed the event. Based on this association, the small-sized short loops of video used in Last Meal Requested are references to, rather than reproductions of, the original video.

Figure 3.4: Lynching postcard obscures written text (center) and therefore forces the viewer to assume the visual perspective of a witness in Last Meal Requested.

The witnessing of black bodies in pain is an emphasized visual motif in the space of Last Meal Requested. This motif is reinforced further by the presence of antique postcards composed as eyewitness images to public lynchings that accompany the images of the King beating (See Figure 3.4). Like the King beating sequence, the lynching postcards show contorted black bodies in pain. Once the audio begins in the section, the images of bodies in public in poses of contorted death are superimposed over the written descriptions and alongside the video references to the King beating video. Furthermore, this is a representation of space in a multi-layered

107 Likewise in the other themed sections the images are witness perspectives of violence directed towards the bodies of females and ethnic minorities.
design that is framed by the audio, which is made up of short first-person spoken accounts of racial violence and discrimination.

By examining the design of Last Meal Requested in the contexts of space, it becomes possible to understand how the viewer is made a participating witness through interaction. Firstly, the designed space of Last Meal Requested includes both the visual and the audio. The images I have classified as witness perspectives depict acts of violence directed towards black bodies. As I have argued, the images are iconic, according to how they resemble their object. In the Rodney King section of Last Meal Requested the composition of the images establishes an ongoing present moment through visual point of view, subject matter and repetition. The looping of images as videos and still Flash animations continually draw the reader back to the same mediated moment – the point in time when Rodney King is struck (in the case of other themed sections, when the woman is shot or when the child dies).

The repetition of images as loops provides an emphasis that contributes to the monumental status of the video within the represented space. Furthermore, the looping of a few seconds from the video suggests a continual ongoing present moment. In addition to the ongoing present represented by the material design of the images (i.e. as loops), layering in Last Meal Requested reconstructs the visual presence of a witness. This witnessing is simulated by how images that construct a present-time, first person viewer obscure written text in a third person past tense that recounts the events (See Figure 3.4).  

Finally, the audio from the text includes the body of the reader

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109 My analysis of what David Shepard calls “the executed layer” of the digital work, or “what the user experiences” (Shepard 2008 n. pag.), reveals that it is actually composed of multiple layers when read for effect. These layers include combinations of characters and settings, written text, audio, video and still images.
within representational space, as “sound is an omnidirectional experience, capable of carrying information about virtual materials and dimensions” (Grimshaw and Schott 474). This omnidirectional experience places the reader in a space filled with voices that recount acts of violence and pain in the present tense first-person. Thus the overall design of Last Meal Requested emphasizes the status of the reader as a witness in both time and space.

Audio in Last Meal Requested contributes in two ways to the establishment of representational space as an influence for reader interaction. Firstly, audio marks out significant points for procedural interaction as auditory icons (Grimshaw and Schott 474); and secondly, audio establishes spatial perspective in relation to interaction with the text. The first point is illustrated by the phrase “[l]ast meal requested, justice, equality and world peace” and its function in space of Last Meal Requested. When the reader crosses over between each of the three sections (i.e. the Halabja massacre of 1988, the beating of Rodney King in 1991, and the public execution of a woman in Taliban-Afghanistan in 1999) the phrase is spoken in a feminine voice. Unlike the other audio samples in Last Meal Requested, the phrase cannot be played simultaneously with any other audio in a single reading and thus it stands alone as distinct audio from the position of the interaction. In this way, the phrase is a monumental point in the space of the work and operates as a material marker between the themed sections.

110 Audio is representational in Last Meal Requested according to how it “overlays physical space, making symbolic use of its objects” (Lefebvre 39). I class this configuration as addressive and return to it in the following chapter. I go on to argue in the final chapter of this study that sound is also a major diegetic element in both Egypt and Last Meal Requested in how it defines navigation for the reader in terms of place.

111 In order to remix the phrase in Last Meal Requested multiple examples of the work must be run at the same time on a single computer.
providing a sense of movement and spatial change. Anyone interacting with Last Meal Requested is immersed in the space of the work through the marking out and repetition of this audio. The phrase “last meal requested, justice, equality and world peace” is thus an example of how audio contributes to the meaning of a digital text as a spatial determinant (Last Meal Requested n. pag.).

Alongside this spatial marking out of themes in Last Meal Requested, the audio exhibits my second point of setting up the perspective for interaction. While I classify the establishment of perspective as addressive in the following chapter, it has a basis in design that should be mentioned here. The experience of Last Meal Requested is as a witness to the events it depicts, which is premised on the construction of a point of view through the images and the temporal bias that define the work. The audio in Last Meal Requested reinforces this sense of witnessing events from within a representational space. I now turn to the structuring of interaction by audio according to the witness perspective in the work.

In each section of Last Meal Requested, there are five links to separate audio samples in the top right-hand corner. These samples can be played individually or simultaneously, which results in a mash-up of voices. These voices describe the experience of violence and oppression, either directly or as a commentary, and thus reinforce the images that move across the screen when they are played. While these samples are played, a sparse metallic audio track plays continually. This permanent background sound underlies the spoken word samples and brings the spatial effect of combining all samples

21. The title and its repetition as audio are further indicators of the monumentality of the vocal phrase.

113 The quoted “last meal requested, justice, equality and world peace” (Last Meal Requested n. pag.) becomes a material part of the designed space, over and above its meaning as a play on words and historically as the last requested meal from an actual state-condemned man (Final Meal Requests n. pag.).
into a single audio frame for the work. As I have explained, the audio surrounds any hearing person who interacts with the work. The audio builds both as layers and in intensity, with the often flat and unemotional voices running into each other as they describe horrific conditions. This layering of audio and the randomness of selecting and combining the samples means the reader must order the words and make sense of what they mean themselves. The overall effect of this audio collage is (once again) the positioning of the reader in the space of the work. The reader builds a combination of audio resulting in a series of statements around the themes of state, gender or ethnic violence.

Images of contorted bodies in pain and as corpses, along with the voices of participants and witnesses, create the perspective of a witness in *Last Meal Requested*. This perspective includes the first person perspective of the avatar, in a spectatorship that relies on interaction. Similarly, the remediation and monumentality of video images define the themes of each section, such as the video of Rodney King (racial violence) and in the other sections the execution of a woman by the Taliban (gender violence) and the death of children and adults by gassing in Halabja (state violence). These repeated images (looped and multiple) represent the visual perspective of witnesses to the events themselves. The same use of space to create perspective is present in *Façade* but with far greater levels of integration between objects, audio and the spaces to which they contribute.

*Design and Space in Façade*

The space of *Façade* includes the reader to a degree of interaction that exceeds the other works of this study. It is in

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114 The distinctions of racial, state and gender related violence are made by the author in the online preface (See Hayashi)
this sense that *Façade* represents a culmination of the ideas and arguments made in this dissertation. The visual interface of *Façade* represents an apartment composed of domestic places and objects as an interactive space (See Figure 3.5). The space begins at the front door of the apartment (site of greetings and introductions), and moves into the middle, which includes the bar (assigned to Trip and his desires for prestige and control) and its various objects (a picture of Italy, bottles of wine, lucky 8-ball, drinking glasses), as well as the table, phone and wedding photo opposite (a shared place prompting dialogue on parents, marriage and the past). The innermost point of the interface is the lounge, which features objects significant to Grace and her marriage to Trip (art, ornaments, furniture and the view from the window).

![Figure 3.5: Apartment in Façade from the front door foreground.](image)

115 In this image the apartment the mid-ground is the bar to the left, phone and table to the right; background is the lounge directly ahead and panoramic skyline through the far window. The window, along with the art works and furniture, are iconic signs that prompt the reader in the same way as the haptic objects, but rely on keyword recognition to become part of dialogue and not on manipulation. The haptic objects trigger dialogue through the reader manipulating them.
The events relating to Grace and her marriage to Trip are activated by either a telephone call from one of the parents, a conflict over the Italy picture, or by referencing the art works and decorating. Each of these objects has iconic significance within the narrative. In Façade, and similarly to the examples discussed so far with the other texts, the iconic links language with space through the emphases of monumentality and perspective via objects and characters. Furthermore, interaction with Façade is coordinated by the parsing of language inputs, alongside the manipulation of objects and navigation from the focalizing perspective of an avatar.\textsuperscript{116} As I shall now explain, these elements in Façade link language to the spatial configuration. By interacting with the objects, language elements are introduced into the experience of the text.

The design of Façade includes its Natural Language Generation (NLG) system, which uses keyword recognition to guide narrative progression in conjunction with the spatial. NLG is “a subfield of artificial intelligence and computational linguistics that is concerned with building computer software systems that can produce meaningful texts in English or other human languages from some underlying nonlinguistic representations of information” (Reiter and Dale xvii). In Façade, nonlinguistic representations include the spatial configuration of the work, with the objects and places that compose it. Responses to Façade include entering written (‘chat’) language into the program as well as by the haptic manipulation of virtual objects. The chat inputs create a narrative progression by the use of keyword syntactic analysis or parsing. In this parsing, the Façade program matches the

\textsuperscript{116} The breakdown in procedural order in Façade is described by Marie-Laure Ryan as a negative aspect of the work (Ryan, Avatars of Story 176), and as a failure of the parsing system resulting in narrative incoherency and misunderstanding.
entered word/s with pre-programmed keywords. Keywords, such as ‘love’, ‘divorce’, ‘marriage’, ‘view’, and ‘romance’, trigger narrative sequences according to this programming. These prompts and contextual determinants guide the parsing sequences of Façade, such as the invitation to drink or seeking of an opinion regarding a photograph. This connection of objects and actions to the language of Façade joins the dialogue to the spatial configuration of the work. In this way, the space of Façade exerts influence over both interaction and narrative. When a keyword is entered into Façade, often following a visual or verbal prompt, it can trigger dialogue. In this process the space of the work is made meaningful as a result of interaction.

Figure 3.6: The view from the apartment window in Façade showing the skyline.

To illustrate the link between words, objects and the space of Façade and how it drives the narrative, I examine three uses of the word “view” taken from a single stage-play generated in a single reading of Façade.¹¹⁷ The results demonstrate how a word is parsed by the NLG programming of Façade, and how

¹¹⁷ This series is taken from a Façade stage play, or the script that is generated by the program following the ending of a session.
this parsing connects language to the representation of space. The use of the word “view” is first prompted by the image of a wall length window on one side of the apartment, with a panorama of an inner city skyline at night with high rise apartment blocks (See Figure 3.6). By commenting on the view outside, the guest (JIM) initiates a dialogue sequence centered on the word “view” (*Façade*).

JIM: Great view here.  
TRIP: Oh, ha ha, thanks --  
GRACE: Oh, Jim, -- (interrupted)  
TRIP: Ah, yeah, this is some kind of amazing view. I never get tired of looking at it.  
GRACE: Ugh, I need to call building maintenance to wash these windows.  
TRIP: (little sigh) (*Façade*)

The window is of course related to the visual and spatial, which includes the lounge of the apartment and its signs of success (e.g. the view as a status symbol). The input of the word ‘view’ opens as a linguistic reference to the space of narrative in the first example, but with an underlying, and at this stage non-specific, negative tone introduced by the final sentence regarding dirty windows and the “little sigh” from Trip. The dirty windows can be related to the domestic situation of Grace and Trip, as a possible metaphor involving surfaces, or an allusion to the façade of the title, and the anticipation of a conflict.

In the second use of the word view in the same exchange, the negative tone of Grace moves to referencing the actual view itself and its lack of trees. “View” is here made negative by Grace, with an allusion to a deep dissatisfaction in regards to her ‘enclosed’ creative life (“the artist in me dying to get out” which is a theme returned to relation to the sculptures discussed below) and her questioning the external surroundings
(“I'd really rather see some trees...”), beyond the surface of the windows and in the world of art and profession (Façade).

GRACE: (little sigh) You know, everybody says the view from our balcony is fantastic...
TRIP: Yeah, it really makes you feel like you've -- (interrupted)
JIM: It is!
TRIP: Well, it’s impressive... even after a full day's work designing magazine ads, Grace somehow finds time to decorate...
GRACE: Ha ha, I guess it's just the artist in me dying to get out.
GRACE: (little sigh) So everybody loves this view...
GRACE: but I'd really rather see some trees or something... a natural green would enhance the colors of the room so much better. (Façade)

In spatial terms, dissatisfaction is no longer attributed to the surface issue of the non-cleanliness of the windows, but rather it is now assigned to something relatively permanent that frames the entire representational space, namely, the world outside the apartment. By the third occurrence of the word “view,” any attempt by the guest to return to the topic as initially prompted by the window is met with complete negation by Grace.

GRACE: Goddamn second honeymoon...
JIM: can we talk about the view again?
GRACE: Trip, our whole marriage, you're so... controlling! -- (interrupted)
GRACE: Look, you're going to really make it bad if you keep criticizing me!
GRACE: Alright, you know what, Jim,
GRACE: I'm going to ask you something.
TRIP: Grace --
GRACE: Trip, let me ask our guest a question. (Façade).

Instead, the guest character’s use of the word ‘view’ is answered with “you're so... controlling!” (Façade). The issue is no longer
the space itself but how Grace and Trip relate to each other. By comparing these three uses of the word ‘view’, it is possible to see how narrative and spaces are combined. The word “view” and the represented view from the apartment window structure the dialogue of the text. The word “view” opens themes of entrapment and conflict between Grace and Trip. This conflict is a basic plot element in the narrative of Façade.

The word “view” is one of the many bridges between language and space in Façade.118 The connections created by the word “view” to the space of narrative are centered on three stages of interpretation related to the iconic element (in this case the window) in the text. The three stages are the prompting, the recognition and the response to the iconic, whereby the spatial configuration of the text is realized via interaction.119 With the recognition of the view as aesthetically valuable, the guest can respond accordingly. If the guest responds to the word ‘view’ as “fantastic” etc. the dialogue breaks down at this second stage.120 Instead, the tension between Grace and Trip is suggested with different perspectives on the view. The failure of the view to enhance the decorating implies the limited range of responses possible in the third attempt by the guest to use the word “view.” Conflict is the dominant theme here, and the program no longer parses the

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118 Other examples of words linking to the space of the text through objects include the holiday picture, the painting, the wedding photo and the couch (which I discuss in the following chapter).

119 Here I refer back to the models discussed in the opening chapter, where material is made a part of interpretation in the design of the digital text (see Ciccoricco, Materialities of Close Reading n. pag.). This material integration in digitally mediated narrative is noted by Katherine Hayles as requiring, “three different modes of interrogation: what it is (the material); what it does (the operational); and what it means (the symbolic). Feedback loops connect the material, operational, and symbolic into an integrated, recursively structured hierarchy” (Hayles, Mother 194). This three-tiered approach to analysis appears often in the research (e.g. I cite Jävinen and Dormans in this study), and is in my own analysis of design.

120 This shift is why an understanding of reading is so important in regard to the digital works. In Façade a constant interpretation is needed to negotiate the text.
word ‘view’. In effect the guest must follow a narrative development according to this emerging sense of conflict as dictated by the NLG system. The final line from Grace, “I’m going to ask you something,” indicates a total shift from the features of the visual space towards the emotional and internal state of the host/s. 121

The word ‘view’ is an example of how the spatial dimensions of Façade are essential components of the narrative structure. The themes implicated in the references to the view in Façade include the economic and related social standings of Grace and Trip, the ambitions of the female character, and the manipulative power exerted by the male counterpoint character. The development of the word ‘view’ establishes how interaction is spatially guided and that this has implications for the development of the narrative. In relation to the word ‘view’, sufficient attributes are coordinated in relation to the word, providing emphasis and granting it monumentality within the space. In this case, the visual prompt of the window evokes a programmed keyword, ‘view’, which guides interaction and results in the establishment of a pre-determined narrative path. In the design of Façade such linkages between the spatial and narrative are not just visual, but include haptic elements, whereby interaction with objects in the space by moving or ‘touching’ produces similarly grounded controls over the story, to which I now turn.

**Objects and Narrative Order in the Design of Façade**

Virtual objects in the apartment in Façade can be picked up, moved and referred to by the guest. These objects include wine glasses, ornaments, a small “magic eight ball” game and a

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121 This movement towards an imagined inner place of the hosts is first present in the prefaces, as I pointed out in the previous chapter. The movement towards an imagined center continues as a theme in the address of the texts, such as the quest for answers and uncovering truth.
telephone. When the guest interacts with these objects haptically (e.g. by picking them up), representational elements such as Grace’s frustration or the pretensions of Trip are triggered in dialogue. The narrative themes associated with the objects include jealousy, love, professional and gender identities, lifestyle, family and marriage. The objects link to characters in dialogue, providing perspectives on a theme, one of which the reader is forced to subscribe to if narrative coherence is to be maintained. In this way, interacting with the space is organized according to how the virtual objects prompt and then introduce themes. From interaction with an object, there are branching possibilities for narrative development, defining the opposing perspective of each of the two characters.

Figure 3.7: The Brass Bull that triggers narrative themes of frustration and mistrust in Façade

The objects contribute to narrative order Façade according to two types: firstly as the objects that operate as iconic and symbolic, and secondly as objects that trigger dialogue but that are not signs in themselves. In both of these
arrangements, it is clear that the spatial composition of the work exerts a dramatic influence over the development of the narrative. The objects contribute to the spaces of the work and guide interaction according to their significance for each of the characters and to the appropriate responses that can be made to them by the guest. Trip and Grace function as the control mechanisms for these responses within the representation of space according to the themes that are prompted by interaction with the virtual objects (jealousy etc.).

One example of the haptic as a trigger for narrative dialogue and events is the brass bull in *Façade*. Interacting with the brass bull, a virtual object on the shelf in the apartment (see Figure 3.7), suggests the frustrations of Grace and the secrets of Trip. Once the guest picks up this object, Trip responds in a secretive and uncomfortable way.

(JIM picks up the brass bull.)
TRIP: Oh, that brass bull, that’s a gift from my business contact in Barcelona --
GRACE: What is that doing out here? Didn’t I ask you to put that away?
TRIP: Uh, yeah, I will, later, after our friend leaves.
GRACE: (frustrated sigh) (*Façade*)

In some narrative paths, the business contact in Barcelona is later revealed to be a woman Trip had an affair with. Thus by interacting with the bull the themes of mistrust and frustration are foreshadowed. In this sense the brass bull does not stand in for its referent in the sense of the iconic. Rather the brass bull is a trigger for a narrative sequence. Despite this difference, the principle of a virtual object directing interaction as an element

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122 This should not be confused with the iconic properties of objects and how they contribute to interaction from the addressive dimensions of the digital works. I take up the responses within addressivity in the following chapter.
within representational space remains in the example of the brass bull.

Figure 3.8: Virtual objects on the shelf in the apartment of Façade.

The significance of objects is further illustrated by the reader/guest picking up a sculpture from the shelf. Along with the brass bull, there are eight other virtual objects on the shelves of the lounge in Façade (see Figure 3.8). Narrative themes are again introduced into dialogue by interacting with these objects, such as when the guest picks up a trinket from the shelf;

GRACE: Oh, do you like those sculptures? I used to be so into, uh, collecting them... (JIM puts down a trinket 4.)
TRIP: Into them? You love your sculptures so much I’m not even allowed to touch -- (interrupted) (Façade)

The objects (“those sculptures”) introduce the larger narrative conceits of dissatisfaction and conflict in Grace and Trip’ marriage to the guest via interaction (similarly to the
frustrations around the view). However, these objects are also iconic in how they resemble their referents as objects of art. In fact, the shelves, the objects and the position they occupy are symbolic extensions of the character in terms of identity and aspirations.

The “love” of Grace for her sculptures is introduced to the guest by picking up “trinket 4” (Façade). In this case the sculpture is not simply an object that triggers a narrative in the sense of the “Brass Bull,” but it is symbolic as signifying Grace’s artistic ambitions and emotions. In this way the objects of Façade are not just simply props, or “an excuse for an improvised change” (Jones 105) in narrative development. On the contrary, Façade is a programmed narrative in which space governs interaction. The manipulation of the objects by the reader contributes to this programmed narrative, depending on the object named or ‘touched’. Interacting with the sculptures in Façade exemplifies how themes are introduced to the reader. When a sculpture is manipulated the guest is forced to respond to Grace’s regrets and desires in her relationship with Trip.

GRACE: (little sigh) So I’ve been collecting these sculptures...
GRACE: but now when I look at them, they give me a... like... a... headache.
TRIP: Oh no, no...Jim, they’re nice...
(JIM picks up a trinket 5.)
TRIP: W-- well, uh, it, it always amazes me, how after a full day’s work designing magazine ads, Grace still has the energy to decorate...
(JIM puts down a trinket 5.)
GRACE: Ha ha, heh, I guess it’s just the artist in me dying to get out, ha...(Façade)

Even though the guest (JIM) does not speak in this exchange, the action of picking up the sculpture initiates dialogue about Grace’s decorating skills as a means of self-expression and independence (yet again as “the artist in me dying to get out”).
From this interaction, references to the sculptures, along with their visual and spatial presence, combine to suggest the divided nature of Grace when it comes to her relationship with Trip and the home they share. The line that divides the two characters becomes clear when a discussion develops around the object.

The sculptures in *Façade* illustrate how virtual objects can influence the progression of the narrative. The interaction by the reader with the brass bull, like the other virtual objects, reveals character perspectives in the work. Grace’s frustrations and feelings of being trapped, along with Trip’s desire to maintain the façade of their married life are related via their perspectives on the objects. In this way the spatial dimensions are integrated with the narrative themes in *Façade*. The haptic manipulation of the virtual objects in *Façade* demonstrates that “physical actions are much less ambiguous than verbal input because the user can perform them with a mouse click, rather than using a phrase the parser can understand” (Ryan 2006a 178). This reduced ambiguity has the effect of centering the narrative on a theme attached to an object. At the same time this organization excludes any possibility of the guest assigning roles to objects themselves. A further effect of haptic manipulation and objects as iconic symbols in the space of the digital works is the integration of the guest into the space of narrative. In this way, the objects help define the narrative of *Façade*. As symbolic features of space, the virtual objects define narrative due to their role in interaction.

The objects, such as the virtual books complete with pages in *Dreamaphage*, or the virtual objects in *Façade*, can also be understood as contributing to focalization in first-person perspective. This perspective forces all interaction to assume

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123 The interaction with simulations as a component of meaning is related to how “the meaning of the simulation emerges from a dynamic interaction” (Hayles, *Simulations* n. pag.) with the modeled system.
a particular visual and spatial presence in relation to the work. As I have explained above, perspective is restricted to a point within the spatial structure of. The virtual objects, as iconic references in Façade and Dreamaphage, further strengthen this first person perspective. Furthermore, these objects can trigger or prompt narrative events and themes, which I attribute from my close reading to monumentality. Objects that are manipulated (or even commented upon) also operate as prompts that trigger narrative events, character actions or dialogue in Façade. These objects contribute to narrative by ordering events and actions from their spatial settings, even if the reader attempts to counteract it. I expand on this ordering function of objects in narrative in the following chapter. In Dreamaphage the virtual-books create a presence for the reader in the space of the work. In short, design sees the iconic dominates the “sign layer” (Jävinen 2003 n. pag.) in the representation of space, where the object referencing a narrative element provides narrative perspectives. I return to the iconic and the role it plays in addressivity in the following chapter.

The haptic properties of the works suggest that it is the spatial appearance rather than the simulative functionality that makes interaction meaningful. The virtual-books are references to the book as a material form, but only in spatial resemblance, as the gap in simulation reveals. The degree to which a simulation resembles the system it references is how it differs from its status as an iconic sign. Situated between the myth of a total simulation, or what Bolter and Gromala term “transparency” (Bolter and Gromala 48-50), and narrative “in which a narrative agent tells a story” (Bal, Narratology 16), are

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124 I propose the greater the fidelity to the source system the higher the degree of simulation. The higher the degree of simulation, the less the object is iconic. Haptics are a particular test for this ratio as it is a simulative feature, but one that may resemble the conditions of the source system on a limited scale. The haptics therefore become a dimension of the iconic sign with the limitation becoming the gap that conditions interpretation.
the conditions necessary for the iconic sign. In *Dreamaphage*,
the virtual pages function as a temporal flow that imposes the
coded order of layering upon interaction (including reading).
Each page-unit functions as a surface for inscription and as a
node in a set order of narrative progression. In this way, the
surfaces of the virtual-books operate partially as a simulative
system in process, as well as according to the iconic in how they
possess the qualities of that signified. In *Façade* surfaces are
what constitute a range of tropes relating to the themes of
narrative. For example, the ‘seeing-behind’ that is promised in
the prefaces of *Façade* (and discussed in the previous chapter)
is guided by the design of the work, with objects linked to
themes and surfaces (such as the view) and processed as layers
in reading. The virtual books in *Dreamaphage* reference the
kinetic, visual and spatial elements of the book as a simulation,
but it is the iconic that explains how these become meaningful
in reception.

*Summary*

In this chapter I have argued that a temporal perspective is a
result of the focalization created by audio. In this arrangement
the material dimensions of the digital works include the
“temporal and spatial relationships [that] are essential to our
understanding of [the] narratives and go beyond the
specification of a date and a location” (Bridgeman 65). To
rephrase Khan (27), the audio of the works surrounds the
reader and the act of reading, by destabilizing vision as the
dominant conceptual apparatus and making the body a site for
interpretation based on the spatial properties of sound. 125 By
rendering the body as a site for experience, the works can only

125 Audio establishes a spatial perspective with spatially arranged “sounds
[that] can be heard coming from outside and behind the range of peripheral
vision, and a sound of adequate intensity can be felt on and within the body as a
whole, thereby dislocating the frontal and conceptual associations of vision with
an all-around corporeality and spatiality” (Kahn 27).
be interpreted spatially. In this way representations of space in the works include the listener, as an embodied agent (i.e. avatar), as a character, or as a perspectival presence in the works. In relation to communication, this primacy of sound acknowledges the hearing individual in terms of how, “I am at the center of my auditory world, which envelops me, establishing me at a kind of core of sensation and existence... You can immerse yourself in hearing, in sound. There is no way to immerse yourself similarly in sight” (Ong 71). Sound immerses the reader in the spatial, which also includes the apparatus of the computer and the work itself. From the perspectives this arrangement creates the reader is drawn into the addressivity the work offers.

However, the navigation through the digital works or the manipulation of objects and the observance of perspective do not create narrative on their own. These factors control interaction, in the sense of providing a structure for the experience of the texts, as I have described in this chapter. But the represented status of the spaces I described means interaction is meeting with the components of narrative and enacting meaningful dialogue and interpretation with those components. The audio in Last Meal Requested, Egypt and Façade positions whoever interacts with them as a body within a space. This immersion is achieved as a result of the designed properties related to audio. A sense of corporeality emerges from this configuration, even when headphones are used. The positioning of the reader is linked to focalization or “the perspective in terms of which the narrated situations and events are presented” (Prince 32). In responding to the audio of the works, “the narrated situations and events are presented” and spatial focalization contributes to the ordering as a part of interaction.
Design is far more deterritorialized and open to a greater number of possibilities for response than the addressivity I discuss in the following chapter. Design creates the space of the work, but addressivity, or the contexts that are suggested by spaces as represented and representational, determine the considerations for interpretation within the framework of that space. On the other hand, the design of the digital works is more focused on the representation of space, on the referencing of (often pre-existing) concepts and images that condition understanding and interaction with that space. In this process of representation, and from the principles of design outlined in this chapter, it becomes clear that the works always embody or reference materiality, which brings my analysis to a point between the spatial and the addressive elements of digital literature. In the following chapter I turn from the material configuration of the works as meaningful to how the works are addressive for the reader. In doing so I investigate how the representations of space that are established by design become the frames for addressivity as part of interaction.

In the following chapter I go on to examine the spatial for focalization and addressivity through references to gender and social class. In my analysis this move from design (structure) to ideology (content) is an intrinsic part of the interaction that emerges as responses to the ergodic components of the digital works. Focalization, or “the perspective in terms of which the narrated situations and events are presented” (Prince 32), is built upon the perspectives created by design. From this perspective the reader encounters the addressivity of the digital texts. Specifically, place is discussed according to how it articulates concepts of gender and class in narrative.

126 In design “space is relatively deterritorialized. Place is relatively reterritorialized. [...] The movement through space does not actualize all the possibilities of that place. Indeed, what one has to work with is limited, structured” (Wise 125).
continuity from space to place, from design to addressivity is based on the acknowledgment that the works examined here manifest narrative from the prefaces to the material configuration of design and finally to the addressive structures that operate according to language and ideology. The movement from design to addressivity includes the representational layer of space.

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The Addressivity of the Spatial

I have so far discussed the representation of space in relation to the prefaces and design. In this final chapter the digital works are examined as texts for how space contributes to addressivity. As I explained in chapter one, my approach to the addressive of the spatial is based on “the influence of the anticipated response” in a communicative act or utterance (Bakhtin, Genres 99). Such addressivity extends the spaces of the digital texts as symbolic, with an anticipation of response on the representational level a principle of the space of narrative (see Figure 2.1). I demonstrate this anticipation by examining references and representations of gender and social class in the digital texts. As I clarify below, gender and class contribute to representational space in the references and representations of objects, architectural assemblages, written and spoken language, moving and still images, characters and genres. I examine these elements according to how they contribute to the representation of places within the larger representational space of the texts (and above that the space of narrative). Addressivity in the digital texts is often defined by pre-existing narrative elements, and I demonstrate this through the elements that combine in the representation and references to places as a representational category.

My analysis of place is based on the idea that it is a specific category of space, as an addressive element with a density of representational content (i.e. representing class and gender) that qualifies it as an utterance. I argue that the places represented and referenced in these digital texts are

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127 Here again I refer to M. M Bakhtin’s concept of the utterance as a point within a chain of communication, as “primarily a response to preceding utterances of the given sphere (we understand the word ‘response’ here in the broadest sense)” (Bakhtin 1986 91).
assigned attributes based on how the relevant objects and locations are connected to characters (and subsequently to dialogue and focalization) in ways consistent with the depiction of gender and class. To further validate how addressivity is a product of the spatial I discuss the narrative values attributed to these places according to differences in social class and gender relations. Finally, I contend that such representations guide interaction by establishing the contexts for reader responses on the level of narrative (here expressed spatially). These contexts take in characters and dialogue, paths of navigation, haptics and the ordering of narrative events. Thus my analysis of addressivity in the texts relies upon a three-part component of interaction; firstly, representational space makes each text distinct as a narrative document and contributes to the basics of interaction. Secondly, place is established as a representational component of the texts. Finally, place is addressive within the larger frame of representational space and it anticipates responses as interaction. This present chapter should be understood as the culmination of my argument and the analyses presented in the previous chapters.

This chapter proceeds as follows. I firstly revisit the concept of addressivity in some detail as it was introduced in chapter one. I then use addressivity to analyze the representation of place in *Egypt*. I demonstrate how the reference to and representation of places in *Egypt* divide representational space into the colonial and colonized. Furthermore, I argue that the characters in *Egypt* are identified with these places in relation to concepts of gender, which are expressed via the focalizing agent of the narrator. Thus, responses are formulated to the larger structure of interaction according to this addressivity. I then turn to focusing on the same type of spatial analysis on the depictions of class and place in *Last Meal Requested*, which attribute qualities to characters.
according to the places they occupy. These qualities are again grounded in notions of gender and class. Next, I return to the prefaces, as *Dreamaphage* is the text where place is addressive in the preface. I explain how the prefaces to *Dreamaphage* contain references to place in the form of generic language and characters of ‘the hospital’ and how this influences reader interaction. Finally I turn to *Façade* and examine the depictions of social class and a gender binary and how these contribute to the addressivity of the digital text in the representation of places.

**Addressivity in Place**

The expectations imposed upon reader interaction by addressivity include the recognition and understanding of the depiction of generic places (i.e. a hospital) in *Dreamaphage*, of specific concepts of gender and identity in *Last Meal Requested* and *Egypt*, and the references to the class structure of contemporary North American society in *Façade*.\(^{128}\) In these examples, language in a broad representational sense operates in relation to relevant social, historical and cultural contexts, via images, spaces, bodies, sounds and writing.\(^{129}\) I first illustrate this point with an example from *Dreamaphage* of the language of the hospital, which is bound up in medical and bodily contexts, and how it provides a basic sense of place from which interaction is directed to the reader. I go on to explain how similar forms of addressivity operate over the spectrum of film,

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128 *Dreamaphage* addresses the reader with representations and references to place as well as embodiment, but due to the restrictions of chapter length and an attempt at brevity in my argument I do not go into them in detail in this chapter.

129 In relation to the interactive digital work as a text, I take inspiration from the work of Roland Barthes, according to how “any system of signs, whatever their substance and limits; images, gestures, musical sounds, objects, and the complex associations of all of these, which form the content of ritual, convention or public entertainment: these constitute, if not languages, at least systems of signification” (Barthes 1967 9).
written text, images in *Egypt, Last Meal Requested* and *Facade* in an analysis of the representation and references to class and gender.

In the digital works, representations of class and gender are expressed in language, “not as a system of abstract grammatical categories but rather language conceived as ideologically saturated, language as a world view, even as a concrete opinion, insuring a maximum of mutual understanding in all spheres of ideological life” (Bakhtin 2002 271). It is in this sense that the analytical concept of the utterance is relevant to the digital work, whereby language is more than just words and sentences. Language in the digital works operates through the various media represented in the digital texts “as a world view” and includes places and the perspectives they imply. Within the representation of a place in the digital texts, images, objects, spaces, and written and spoken words make reference to gender and class that can be recognized as ideologically saturated. This presence of ideology in the works in such representative structures as stereotypical gender roles means the digital utterance can signify a worldview. This worldview presents as a coherent representation and therefore does not include anything that runs counter to its dominant themes as a qualifier of reader interaction. The worldview takes on the expectations of addressivity that condition the possibilities for reader response, very much in the sense of context. These contexts provided by addressivity can be illustrated in the example of the binary relationships between masculine and feminine characters in the representations of gender in *Façade*. By responding to a character according to the representation of gender associated with it, the coherency between representational elements and interactive possibilities are combined.
Combining the representational with the interactive results in an addressivity that relies on images and ideas firmly grounded in broader social and cultural contexts. In the case of Façade, it is forms of middle-class mobility and stereotypes of gender, which are both individual (belonging to the character) and collective (reflecting a broader social context) that comprise addressivity. The resulting worldview can be understood in terms of the emerging middle class white heterosexual urban North American identity from the late 20th century that dominates all representational space in Façade. This middle class worldview is expressed as individual for each character in relation to addressivity and the responses that can be made to it. Such representational structure (grounded in addressivity) is thus steeped in ideological contexts as the source of meaning for interaction with the digital texts. In short, any interactive engagement with the digital texts includes the need for responses as a product of this addressivity. In this sense, the digital works demonstrate that “understanding and response are dialectically merged and mutually condition each other; one is impossible without the other” (Bakhtin 2002 282). I begin explaining addressivity in detail with the representations of places in Egypt and how they condition responses to the text.

Addressivity and Place in Egypt

I begin my discussion with a relatively simple account of the representation of place in Egypt and its role as addressivity. Place is represented in Egypt according to a representational reliance upon colonial nostalgia or “a desire to re-create and recover the world of late Victorian and Edwardian colonialism as a culture of extraordinary confidence and conspicuous opulence: in a word – Thomas Cook’s word – ‘majesty’” (Gregory 140). The places represented in Egypt can be broadly divided according to their representational status regarding this
faded grandeur related to imperial confidence and conspicuous opulence. In *Egypt*, the Old Cataract Hotel at Aswan and the cruise boat on the Nile are places filled with an overriding sense of colonial nostalgia. On the other hand the “Isle of Fire,” the streets of Aswan and the temple at Abydos at night are places that oppose the colonial nostalgia of the Old Cataract Hotel etc. The non-colonial places qualify representational space in *Egypt* as dangerous, chaotic and uncertain. As Gregory goes on to point out, colonial nostalgia includes “notations” of race, class, gender and sexuality (Gregory 141). It is only by recognizing and responding to these ideological references in *Egypt* that interaction can lead to a meaningful narrative. In the colonial nostalgia of *Egypt*, such schemes suggest a racially segregated society, in which gender identity is polarized between stereotypical characterizations of masculinity and femininity and the significant places where these gender roles are enacted. In the non-colonial places the gender roles of characters are reinforced according to their reactions to the danger and chaos of the surroundings. The reader’s compliance with this scheme is necessary for narrative coherence and this process can be summarized as the end stage of addressivity, where responses are made to the text in accordance with the representations of gender and class I am about to describe.

The colonial period is reimagined in the digital *Egypt* according to how places are invested with representational elements. The result is an anachronistic image that contains imagined colonial subjects. These subjects are frozen in time, which depletes them of power and agency and makes them part of a spectacle that is conducted through the representation of

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130 The modern colonial period officially ended for the nation of Egypt in 1952, but it is reimagined in the digital text, even though it is clear that it is a contemporary story. Early indicators include the narrator teaches “computer literacy”, plane travel is common and television is a major source of news (*Egypt*).
the places that are associated with. The ‘African’ places (e.g. Isle of Fire" and “the vaguely African streets of Aswan” Egypt) contrast with those places in-between that are qualified by colonial nostalgia. As the narrator informs us, the Africa outside the colonial grandeur “looks very different from the glossy pictures of, say, the Temple of Isis” (Egypt). This representational structure is addressive since it has consequences for reader interaction. The awareness of these places within interaction is controlled by the focalization provided by the narrator. Due to focalization the reader has no choice but to share the vision of the narrator in responding to the narrative elements of the text. The resulting interaction is grounded in the places represented in the texts and the values they express.

A character is necessary for the addressive elements of the text to function in Egypt. This necessity is due to the importance of focalization for addressivity. It is the narrator as focalizer that orders the addressive for the reader. The narrator Jeanette is the primary focalizer for Egypt, as I have already explained in chapter one. The characterizations in Egypt are linked to places when it comes to actions and events. The “vaguely African” places provide contexts for Ross as heroic or mysterious or Jeanette as threatened or panicked. The places dominated by colonial nostalgia are sites for Jeanette to fondly reflect on her relationship with Ross or assess the external dangers, and for Ross to appear comfortable or in control and “looking like his normal self” (Egypt). Images and references to gender are played out through the stereotypical characterizations of Ross and Jeanette. The linkages that emerge between characters and places compose an addressivity that is very much grounded in the spatial. Each place evokes character behaviors and subsequent action and dialogue. The characters fuse with these places; distinguished both by
nostalgia or danger, and in doing so a contrast is established that is realized in interaction and grounded in the representation of place.

The spectacle of tourism combines with a faded imperial ancient kingdom to provide a sense of splendor that complements the colonial nostalgia. References to the imperial order of ancient Egypt are contained in statements such as, the “Poor Nile God Hapi has fled from all the traffic and noise, no place now to linger in the shade of a palm tree” (*Egypt*). This imperial nostalgia compliments a colonial one. Once installed in the Old Cataract, drinking bottled water on the balcony of her room, the focalizing narrator again shares the panorama of the Nile with the reader; “feluccas drifted by with their colorful sails; Elephantine Island shimmered in the sunset. I felt like I had returned to the earthly paradise” (*Egypt*). This return to paradise is a return to an imagined past, in which the reader is guided by visual, auditory and written elements to respond to the controlled spectacle of the tourist panorama constructed from colonial or imperial referents.

In contrast to the nostalgia of the colonial, the landing on the “Isle of Fire” illustrates the role of the focalizer in *Egypt* within the addressive structure of place. Here the landscape, natural features and the indigenous people are portrayed as endangering the narrator. Initially control of the place is assumed as the narrator as the focalizing agent reports: “At first I thought we might be relatively safe, since there I saw only one landing spot”, however this is immediately negated through focalization for both narrator and reader when, “we got to the top of the first little rise I could see that there was another one on the other side of the island” (*Egypt*). The nature of the place is thus revised when a view over the whole island is achieved and the narrator and her party, along with the reader, discover they are not in control. Following the revelation about the “Isle
of Fire” not being a secure place, the “natives” in Jeanette’s employ betray her when “not long after, a native boat arrived and seven of our retainers went over the rail with their possessions” (Egypt). The focalizer then renders the landscape simultaneous for both reader and narrative, via a third person address of “we” and “us”: “We had hardly gone a few yards when, my god, there was this snake right in front of us. It was a giant” (Egypt). This struggle of the narrator and her ‘retainers’ against nature and native dangers on the “Isle of Fire” places it outside colonial influence and therefore dangerous. Reader’s responses to the account of the “Isle of Fire” by the narrator of Egypt rely on a stereotypical femininity, with a specific image of gender according to the narrator’s reactions to place.

The narrator summarizes the entire narrative sequence related to the dangers of the “Isle of Fire” by referencing an anachronistic concept of gender (in a somewhat sarcastic manner, perhaps to acknowledge the contemporary setting of the narrative): “The mutineers left yesterday [...] Privately too, I thought, if they would virtually guarantee that a lovely, huge snake would die, then they wouldn’t trouble themselves about a mere woman” (Egypt). The worth of a python versus a woman becomes an adjunct to the faded majesty of the colonial order, with its anachronistic concepts of the feminine within that conceptual schema. On the “Isle of Fire” the narrator and her party attempt to take control of the place, but fail because there is more than one point of entry to it. The narrator Jeanette and her crew leave the island shortly after encountering the snake and thus leave the rest of (non-colonial) Africa, as breeched, dangerous, unpredictable and uncontrolled, to return to the boat and the calm of their ordered and opulent colonial surroundings.

It is back on the boat that the narrator clarifies how the reader can respond place and gender. She fantasizes perhaps
the ultimate image of faded grandeur and its gender roles, when she states she is “ready for the moment when Ross and I would sit on the deck like Anthony and Cleopatra” (*Egypt*). The trope of Anthony and Cleopatra obviously includes a binary gender relationship that in contemporary contexts can be viewed as outdated. Thus, colonial nostalgia can be understood as influencing the actions and attributes of the characters in *Egypt*. In *Egypt* it is the narrator as focalizer that filters possible reader responses in relation to the places that are associated with character actions via colonial nostalgia.\(^{131}\) The reader has no choice but to follow the lead of the narrator in combining the story as a series of multimedia segments.

The actions and dialogue of Jeanette as the feminine character in the “Isle of Fire” sequence can be contrasted with Ross, who is associated with the “dashing, young Indian Jones-style archeologists” (*Egypt*). Ross is the masculine counterpoint to Jeanette, and once again this gender identification is associated with the places he occupies. The example of Aswan as a dusty colonial outpost contrasted against the grand Old Cataract Hotel sets up responses to the character. Ross appears outside the dusty one-room Aswan International Airport having “gone native,” and “looking like a fugitive from destiny” (*Egypt*).\(^{132}\) He is only restored when he is in the colonial Old Cataract Hotel, where “in the Moorish-style bar, sure enough, there was Ross, looking like his normal self” (*Egypt*). In the hotel Ross is “in such a good mood he let his colleagues put him in a fake coffin made out of an old packing case” (*Egypt*). Thus the character and the places he occupies define each other and contribute to a cohesive addressivity to which the reader can

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\(^{131}\) A similar addressivity is present in each of the works analyzed in this chapter. Colonial nostalgia is replaced by social class and gender in *Façade* and *Last Meal Requested*, and these are grounded in the spatial as I discuss below.

\(^{132}\) Aswan Airport (ASW) is actually a modern international hub of arrivals and departures that services up to 864,223 passengers in a year (Egypt Tourism Authority)
respond. This interaction with *Egypt* cannot avoid the structure supplied by the opposing spaces; the ordered colonial versus the disordered and dangerous African. The characters move from one place to another, participating in “the brand of risky adventure that Ross relishes” (*Egypt*). The reader experiences via addressivity, and responds to them under the influence of the contexts it evokes. Focalization drives much of the experience of the association between the characters and places that in turn drive interaction.

Within the addressivity of *Egypt* the narrator provides a perspective similar to that of an avatar, or the sensory “representation of ourselves [...] located in the virtual environment” (Jää-Aro 39). This spatial perspective is anchored in a first-person address, which I propose is the verbal reconstruction of “the position of the avatars own eyes, and is fixed with respect to the avatar” (Adams 412). In this case focalizing can be illustrated by the encounter with the sacred pool, when by moving into the light, the avatar perspective (i.e. from the avatar’s eyes and fixed to that presence) shifts to include what the focalizing agent sees. Like the other non-colonial places, the focalizing narrator perceives the sacred pool in the temple at Abydos as dangerous.

When stopping at Abydos in the darkness of night, the narrator states, “the sacred pool now spilled through the center of the tomb, I didn’t worry too much about the moisture seeping into my shoes” (*Egypt*). For the reader the sensation of moisture in the shoes is inferred as coming from the natural spring. Due to the darkness neither the narrator nor the reader can discern otherwise. The moisture is revealed simultaneously to the reader and the narrator (and her companions) to be blood

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133 This verbal reconstruction resembles Interactive Fiction (a “text-based form of computer-mediated interactive storytelling which may contain gaming elements” (Leavenworth 13)) in how it positions the reader within the space of narrative.
on the floor of the temple, although the reader (like the narrator) is not made aware of where it comes from. In a further example that clarifies the same perspective and experience of the space of narrative, the narrator states, “He gave me a glance that was a question and not a question. I nodded, to seem agreeable, but I was not sure about what he meant by that look. He probably thought I knew more than I was letting on. Small chance!” (Egypt). Once again, all responses to the text, including the negotiating the space of Egypt, proceed from the perspective created by the shared space of narrative as focalized by the narrator. The reader is thus with the narrator, not just through the narrating but also as a presence between character and event in the experience of a place. It can be therefore stated that addressivity in Egypt is dependent upon a series of recognizable features channeled through the focalizing narrator.

Figure 4.1 Egypt segment (“papyrus”), note background, written text and crossbar letter
The addressivity I have described so far in *Egypt* is composed of linkages between space, place, characters and the focalizer. This combination creates a point of awareness for responding to the work from within the larger representational frame of colonial nostalgia. As a result of this focalization, all reader interaction follows a dramatic progression from one colonial zone of influence to the next. A screenshot from *Egypt* (see Figure 4.1) suggests how this addressivity creates such a focal point within the representational space of narrative. The image of a modern city street is accompanied by audio of a song by the pan-Arab singer Om Kalthoum (1898-1975) and a text written in yellow that places the focalizer Jeanette and her brother Ross in “Cairo [which] looks like the history of civilization from the beginning to the end” (*Egypt*). The combined image, text and audio provide a complete narrative sequence for *Egypt*. The backdrop of the street is combined with the traditions represented by the audio of Om Kalthoum.

In the same space as the Cairo image and Om Kalthoum audio, a letter from the narrator to her sister forms a cross bar through the middle of the visual image. Here the reader can access Jeanette’s thoughts as the background to the events narrated in the section below. The idea that Jeanette, and the sister she writes to, “would have to give up the physical presence, the very body, of our brother [Ross]” is contributes to the quest motif first described in the prefaces to *Egypt*. Furthermore, the reader is told by the narrator, “each search has a pattern. Everyone has a role to play” (*Egypt*). Here, “everyone” includes the reader, in tandem with the focalizing narrator are exploring the representational space of *Egypt*. The result is a temporal and spatial immersion that is fixed to the sole point of awareness within the narrative, and as such is a key determinate of interaction. The reader responds to the addressivity of Jeanette and her obsession with her brother.
Ross by joining her on a quest thought the 30 “papyri# of the text (Egypt), and sharing a space that entices responses.

To summarize, Egypt anticipates responses as addressivity in the spatial, which is illustrated by examples of the blood on the temple floor, the perspective gained according to the narrator’s suspicion about “a glance that was a question and not a-question” and the earlier mentioned Cairo street visually resembling “the history of civilization” (Egypt). In each of these cases the reader shares the narrator’s point of view in a cognitive sense. The knowledge shared by both narrator and reader demonstrates how spatial addressivity is dependent upon focalization in the text. The narrator in Egypt is the sole point of reader awareness, which limits and therefore guides all interaction. Combined with this focalization, addressivity is extended to include responses to the ‘African’ places as wild, dangerous and chaotic, while the colonial and imperial zones (both modern and from antiquity) are ordered and filled with faded or conspicuous opulence. The interplay between colonized and ‘African’ places further illustrates the control over interaction from the addressivity present in the spatial. When Ross and Jeanette (along with the reader) inhabit places of colonial nostalgia they assume a confidence and safety within the associated order that is lacking when they are negotiating the “African streets” (Egypt) or the dangerous of the “Isle of Fire” (Egypt). In this way, space, place and focalization control interaction by setting the perimeters for response. The reader must comply with how places influence interaction with the text according to the division of representational space (e.g. the use of audio). The influence of the focalizing narrator within this space in Egypt can be compared to what I term the witness perspective that dominates representational space in Last Meal Requested, which I turn to now.
Addressivity in Last Meal Requested

Unlike Egypt, focalization influences addressivity in Last Meal Requested through material design and not so much within the narrative structure of the work (e.g. with a character as the narrator). The result is a reliance on perspective in a similar sense to that experienced by a witness in how responses are induced. By witness, I do not refer to the single focalizing point present in Egypt as provided by the narrator. Rather, in relation to Last Meal Requested I refer to how “witnessing can be aural as well as ocular. Furthermore, those who receive stories become witnesses once removed, but witnesses nonetheless” (Alexander 81).\footnote{This receiving of the story via focalization functions instead of “the relation of knowledge between the narrative instance and the character” (Kuhn 263). As I discussed in chapter one, between the narrative instance and the character is the point of awareness for interaction but in this case it is formulated as the witness perspective. There is no character to filter the narrative instance. Instead the reader receives the story from within the space of narrative.} This witness perspective incorporates a first-person visual perspective from the point of interaction with a temporal present that is represented in multimedia (audio, video, photography, written text and architecture). By temporal present, as I go on to explain, I mean that the moment portrayed in the text is shared by the reader and is experienced by her as a simultaneous present with its representation in narrative. This temporal present is a product of how the reader is positioned as a witness in relation to the events depicted in Last Meal Requested. The witness is mobile, in that she is not bound to a character or a single interactive point, but is rather an intersection of attributes that should be considered a type of focalization within a representational space. Of course this perspective influences and shapes all interaction with the text.

The witness perspective supplies no intermediate point between the reader and the depictions of events in Last Meal Requested, such as that transforms them via the perspective of a character. Rather the witness is the position for focalization in
Last Meal Requested according to how they “receive stories [and] become witnesses once removed” (Egypt). The avatar perspective produces this structure. To explain the addressivity that emerges from the avatar perspective I examine the archetypal eyewitness video within the text, the amateur video of Rodney King being beaten by Los Angeles police officers in 1991. The now-famous hand-held camcorder video of the beating of Rodney King, an African-American man, by white Los Angeles police officers is repeatedly referenced in Last Meal Requested. The small-sized video loop segment of the beating of Rodney King is a monumental in the space of Last Meal Requested by virtue of emphases.\(^{135}\) The video is repeated three times, thus creating a linked series of emphasized points on the screen that dominates the space. Each of the videos is looped in a repetition lasting a few seconds. This monumentality is symbolic, evoking an event as well as its mediation at the time and what it led to, its contexts and results. The Rodney King video is today linked to a place (i.e. south Central Los Angeles) as well as the political and social themes associated with it related to marginalization and victimization. In this way the King beating defines one section of Last Meal Requested and all the other materials in that section are related to the image of a black man’s prone body lying in pain and subject to authoritarian and institutionalized violence.\(^{136}\)

The small video loops that show five seconds of the King beating video (the entire video is nine minutes and twenty second long- Holliday n. pag.) refers to an already established

\(^{135}\) As a component of address, monumentality, or the network of meaningful associations based on “the strong points, nexuses or anchors” (Lefebvre 222) creates perspective in a representational space. As I explained in the previous chapter, monumentality is a key design principle in Last Meal Requested, which contributes to an elevation of the material form to the level of addressivity.

\(^{136}\) This same structure, with a single event emphasized in one section of Last Meal Requested, is repeated in each. The image is a thematic summary operating in representational space.
narrative, that of the violent event itself and the court cases and civil unrest that followed it. The video shot by George Holliday became a global media phenomenon, and was shown on television around the world. It changed the nature of the event, as it arguably “turned what would otherwise have been a violent, but soon forgotten, encounter between the Los Angeles police and an uncooperative suspect into one of the most widely watched and discussed incidents of its kind” (Holliday n. pag.).

The perspective of the witness is obviously emphasized in how the Holliday video is understood today, with it sharing the Zapruder film of the JFK assassination as a forerunner to the current age of global amateur video such as is found on YouTube (*Assassination*). The witness perspective that lies at the center of our understanding of the King beating video is significant as it establishes both a context for the racial violence depicted in the text and the visual and temporal perspective the reader can witness it from. Furthermore, the interaction that emerges from this context and perspective is dependent upon the representations and references to place in the text, in particular south central Los Angeles.

The references to the Rodney King beating as representations of place depend on pre-existing narratives. At the center of these references in the digital text is the social class associated with a place.\(^{137}\) In this instance class is related to the status of the individuals who perform or present as characters in the digital text. This depiction uniformly portrays residents of south central Los Angeles as marginal within a class system based on education and wealth, with political power relegated as a result. As I go on to explain, even when the perception is

\(^{137}\) Of course ethnicity is represented in the King beating video, but to maintain a degree of uniformity in my analysis of the four digital texts I choose to focus on social class as a representational element in *Last Meal Requested*. This class is arguably a product of the marginalization and the history of the African-American struggle in the USA.
related to ethnicity, it results in a social class assigned to African Americans as they represented in Last Meal Requested, which is as subalterns. In this case class is not assigned so much as a product of ethnicity but more in the context of south central Los Angeles. To clarify this positioning in relation to social class, I use the example of the speech accents reproduced in the digital text and that represent place-dependent class positioning. In this example, place dominates the image of characters, which includes social class and the focalization of the reader as a witness. I therefore argue the representation of class contribute to addressivity in the text. I will now move on to explain how responses are incited with this addressivity with a recap of the design and focalization of Last Meal Requested.

The design of Last Meal Requested creates a visual and temporal structure that in many ways resembles an avatar perspective. To re-clarify the avatar perspective in this case, it is a literary adaptation of the idea that “the camera takes the position of the avatar’s own eyes, and is fixed with respect to the avatar” (Adams 412). The result is a first-person perspective that is the focalizing point for the reader. This focalizer is the point of interaction from within the representational space of Last Meal Requested. Furthermore this perspective is delivered to the reader in the temporal mode of the perpetual present. Looping audio and video, visual images of a repeated moment, and the present tense of spoken language (recorded as voices) are all representational elements in this perpetual present. This structure further underlies the perspective of a witness. Every time four-second looped video image of the attack on Rodney King (see figure 3.3) returns to its starting point the image repeats and the moment it happened is referenced one again as a present moment.

Alongside the images, Last Meal Requested includes audio recordings of spoken voices that reference social class and
place. From five links in each of the three sections, recorded statements speak in relation to the contemporary marginalized and oppressed conditions the speakers have either directly experienced or that they are commenting on. The recorded voices support the violent suffering depicted in the King beating reference. One example of this context is the audio of a feminine speaker in the same section, which states in a dialect accent, “I don’t think this society values the black man as much as it values any other race, or any other type of human being” (Last Meal Requested). The accent and the statement itself incite ideas of inequality and disadvantage related to the speaker. The sharing that is implicit in “this society” creates a sense of proximity to the narrative for the addressee. Responding to this statement, even just on the interpretive level, implies the listener is sharing “this society” (Last Meal Requested). Therefore the reader’s perspective as a witness once removed is reinforced. This witnessing is further influenced by its associations with authority, recognized as power and wisdom in the ideologically saturated utterance of the text. Such power and wisdom are most clearly expressed in the contexts of social class in Last Meal Requested.

From the recorded statements in Last Meal Requested responses to the ergodic dimensions of the text are incited according to how class is related to place and includes economic, social and cultural status. Likewise in the same section of the text, a masculine voice with an educated American accent describes how, “when the indictment came forward Judge Roy Bean dismissed the indictment immediately and said, there is no law that says it is against the law to kill a Chinaman. And that kind of relational distance still exists today. White people have a sort of priority when it comes to life when

\(^{138}\) Lynda Muggleston explores the symbolic dimensions of accent as class positioning in Talking proper: The rise of accent as social symbol (1995).
measured against non-whites” (*Last Meal Requested*). This commentary provides an alternative perspective in relation to the above example of the feminine subaltern voice, in relation to the society that does not value “the black man as much as it values any other race” (*Last Meal Requested*). The educated male speaker is referring to a situation of racial oppression from outside it, not shared within the contexts of “this society” (*Last Meal Requested*). The exteriorized “relational distance” implied by the accent reinforces the positioning of the interiorized feminine witness and the injustice she has experienced. The resulting interplay between exterior and interior, expert and victim is addressive in how it establishes perspective for the reader. As a product of focalization the reader moves into the representational space of class difference and authority/victim of *Last Meal Requested* as a witness. Exclusion from that addressive space, due to a lack of language comprehension or inability to operate the interface, means addressivity. In such a case, interaction collapses and so does narrative with the witness perspective breaking down.

The possibilities for responded to *Last Meal Requested* rely on connections between place and class in narrative using audio. The looped video of the King beating is accompanied by a feminine voice with a heavy Californian regional accent, which states, “I’m a single parent and I do have a four year old son and I do know that his life is not going to be as valued as much as his playmate who happens to be white” (*Last Meal Requested*). This statement addresses the listener/reader by simultaneously connecting the “four year old son” with the image of a grown man being beaten to the ground by police.

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139 While there are clear references to ethnicity in the depiction of place in *Last Meal Requested*, I have chosen to interpret the distinctions related to place as class-based, seeing education, economic advantage and marginalization as a part of social class, while acknowledging its dialogic relations to minority and disenfranchised ethnicity.
within the larger representational space of *Last Meal Requested*. The voice of the woman provides a strong sense of context for responding to the Rodney King-beating video, when she describes her expectations for her son, whose “life is not going to be as valued” (*Last Meal Requested*), due to the perceived social disadvantages of being black. In this connection the speaker again represents a subaltern position in society, presumably as a woman of color and limited education and presumably income. This subaltern position is associated with the image of a place in relation to the beating of Rodney King.

In *Last Meal Requested*, place and class are addressive elements that incite responses via the audio. The responses that audio as speech incites support the appraisal of speakers in regards to class (see Giles 1973, Callan 1983, and Ryan and Bullik 1982). But just as speech can take on signifying elements for interaction and in a narrative, in that it can represent poverty, victimization or privilege, it can also be considered stereotypical. In *Last Meal Requested* feminine voices with regional accents and dialects are represented as marginalized and victimized in connection to place. In contrast, voices with educated accents present as experts and exterior to the contexts offered by place.\textsuperscript{140} Thus educated speech conveys a relative sense of detachment and of authority in *Last Meal Requested* in connection to racial violence and its subjects (i.e. both the judgment of Roy Bean and the beating of King). This detachment and authority are addressive according to how each provides contexts for responses, such as the acknowledgement of the status the voice infers.

By establishing connections to social class in the spoken voices of *Last Meal Requested*, audio contributes to

\textsuperscript{140} In a similar addressive situation in *Façade*, the standardized accents of the two characters set up contexts for interpretation related to class.
addressivity. This addressivity includes recognizing the voice as representing a place in the iconic sense of “auditory icons” (Grimshaw and Schott 476). The recognition of class characterizes the experience of the witness perspective in Last Meal Requested, grounded in what language is saying (literally), and the perspective from which it is said. In the examples cited, both sound and content refer to the economic and social marginalization conveyed by the popular image of South Central Los Angeles. Of course, the use of accents and dialects to convey social class is not new to narrative media. But the audio of Last Meal Requested conditions interaction with the ergodic elements of the digital works. The audio portrays class divisions as representational boundaries within the design of the text. These boundaries include the distinction between the interior and exterior of expert and witness, the experience of violence as a witness and the specific places where this injustice and violence occurs. For example, the marginalization of characters conforms to the image of a society that “does not value the black man” (Last Meal Requested) and positions the reader in relation that subject. The position represents a place, and in the case of South Central Los Angeles this place represents relegation. The reader is therefore compelled to acknowledge this marginal position according to the addressivity of the recorded voices. The result is references to class and place that incite responses to the text.

Addressivity and Place in Dreamaphage

Dreamaphage is unique among the works discussed here as addressivity in relation to place is established in its prefaces. As I explained in the previous chapter, like Last Meal Requested, the design of Dreamaphage results in a first-person avatar perspective that dominates all interaction (i.e. opening the virtual books, turning the pages etc.). The space of
Dreamaphage includes iconic elements that are representational, such as the virtual books, and these provide contexts for interaction. However, the only active agent within this representational space is the reader represented in the first-person avatar perspective. As a result of the dominance of perspective, the establishment of place as a representational structure shifts to the prefaces of Dreamaphage. This representation of place is achieved via an attention to genres in language and characters in the prefaces. Supplementary to this establishment of place, the design of Dreamaphage, as I explained in the previous chapter, establishes focalization. I begin by explaining how place is represented in Dreamaphage and how it compares to the other digital works.

In relation to the addressivity of place, all subsequent responses to Dreamaphage are performed in the contexts provided by a hospital. But the hospital is not referred to directly or even depicted within the virtual books of the text, and it is not a place in the narrative in the sense of a setting or a visual feature (as is the case with the neighborhoods of Last Meal Requested, the apartment in Façade and the Nile/Egypt in Egypt). Rather, it is the language of Dreamaphage, and in particular in the prefaces, which establishes a narrative connection to a generic hospital as the place that contextualizes reader interaction. This connection is achieved by the language of diagnosis and treatment in the prefaces, such as the advice that, “in divergent cases, the spouses or children of patients, after extensive exposure, the exchange of saliva or even contact with blood or semen do not appear to have any symptoms of the virus” (Dreamaphage). The references to “symptoms” and “the spouses or children of patients” are examples of “embedded assumptions and understandings, which are structured by the frameworks of genres and from which we [the readers] work inferentially to the range of textual meaning” (Frow 101). The
language of diagnosis, disease and treatment, (e.g. “symptoms of the virus”), reference the genre of language found in a hospital. This genre provides a boundary to the interpretation of *Dreamaphage* that is governed by what can be summarized as the addressivity of place. It is inferred from the presence of patients, symptoms and cases that a hospital is the place of *Dreamaphage*. The case reports (“charts”) and the dream diaries kept by patients are read in the contexts provided by this addressivity of place, in this case of the hospital that is represented in the prefaces to *Dreamaphage*.

The hospital is established as a generic place in the prefaces to *Dreamaphage* and this exerts influence over the possibilities for responding to the text. In the preface, “Dr. Bomar Felt” is linked to “Wellington Hospital” in the quote attributed to the character in the preface. In a later version of *Dreamaphage*, the same introduction used in the first version becomes the introductory text “Medical Report: Dreamaphage,” and the “Bailee Henderson Lunatic Asylum” is the setting for the drama in *Dreamaphage* Version 2. Including two named hospitals in the prefaces supports the use of medical language and suggests to the reader a specific place where the events represented in the text occur. There is no indication where this place is within the virtual books, but instead the place is characterized from the address of the prefaces related to the “frameworks of genres” (Frow 101). The medical language, the presence of doctors and the names of hospitals all indicate this framework. Finally, as I argued in the previous chapter, the

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141 In the introduction to *Dreamaphage Version Two* "Medical Report: Dreamaphage" the hospital is called the “Bailee Henderson Lunatic Asylum” (Nelson n. pag.)
To summarize how place is addressive in *Dreamaphage* and how it structures interaction, it should be remembered once again that, “spatial stories can evoke pre-existing narrative associations” (Jenkins 123). In this case, the references to and language associated with the hospital as a generic place evoke contexts for reader interaction with its pre-existing narrative associations. These associations are addressive for the reader as the language of diagnosis and palliative care, which in the case of *Dreamaphage* are connected to the hospital and to the horror of the dreamaphage virus. The hospital therefore frames interaction, setting the boundaries for responses, particularly by the use of language. The emphasis on setting includes the presence of medical staff and patients, the desire for health and the necessity of death, which convey a sense of place. These elements comprise the permeable boundary between the diegetic world and the extradiegetic work, which provide contexts that direct interaction with the text. In the digital text the reader is positioned in relation to this boundary through the representation of a place. I contend that this representation of place is part of the space of narrative, detailed in Figure 2.1, in which spatial elements contribute to the interactive representational interface of the text. In *Dreamaphage* the prefaces set up interaction with the remainder of the work. The use of a place in *Dreamaphage* as a source of such contexts introduces the similar but more complex use of place in *Façade*, where an apartment, its rooms and neighborhood provide the contextual framework for complex interactions with textual

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142 As part of interacting with *Dreamaphage*, the perspective created by the design of the books within the three-dimensional space (see chapter four) suggests both reader and the books share a space.
dialogue, characters, drama and action within the frame of the spatial.

**Gender and Spatial Addressivity in Façade**

Similar to the addressivity in the texts discussed so far, *Façade* relies on representation of places within the larger structure of representational space. However, in *Façade* these places consolidate a far more developed form of addressivity according to stereotypes of gender and references to social class.\(^{143}\) The relevance of gender to the spatial in *Façade* relies on pre-existing narratives in an opposing set of stereotypes. Trip, as the masculine character, is given attributes that oppose those assigned to the feminine character, Grace. Both of these characters are in turn aligned with particular places within the space of *Façade*. The lounge area is connected to the feminine character Grace while the bar area is connected to the masculine character Trip. The guest character is the spatial presence of the reader in *Façade*, arranged around a first-person avatar perspective. Choosing a specific gender for the guest influences the possibilities for interaction (although not the actual narrative outcomes). In other words, addressivity is constructed from the combinations of place and gender in *Façade*, which are experienced via the focalizing agent that is the avatar as the character of the guest. This addressivity always relies on pre-existing elements, particularly narratives, according to the ranges of response that can be made from recognizing the conditions of an utterance. There is also, of course, an element of address in the *Façade*, and each of the digital works, whereby the characters address the reader in the intradiegetic sense. But addressivity as the invitation to response is more relevant in my

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\(^{143}\) Similar depictions of class and gender define the places represented in *Egypt*, as I explain above.
assessment of the spatial and its influence over interaction and narrative.

The connection between gender and place is achieved in Façade in how specific locations represented in the work are assigned attributes (mostly through objects with iconic significance) that complement the programmed characters (Grace and Trip). Reader interaction with a character, and the places/objects aligned with them, provoke pre-existing narrative themes. The linkages in the text between characters and gender thus guide interaction in the contexts offered by narratives of marriage, relationships, career, family, home and prestige. In this sense the focalizer, while anchored in the guest, is directed towards objects, places and the programmed characters as a result of interaction. I first explain how this shifting focalization is coordinated in space using examples related to the depiction of gender in Façade. The text anticipates these responses based on stereotypes, such as Grace as the emotional, homemaker and submissive wife and Trip as the assertive, aggressive, socially mobile and career-minded husband.

All interaction with the characters and spaces of Façade is focused through the presence of the guest as an avatar. This focalization conditions Façade with that point of interaction as “the relation of knowledge between the narrative instance and the character” (Kuhn 263). As I explained in the previous chapter, the guest is established in the preface with the selection of a name. The name selection is a point of emphasis that takes on representational significance when the avatar channels the addressivity that is grounded in its gender. All references and representations of gender in Façade include a strict polarity

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144 Focalization within Façade functions as, but is not restricted to, “an interpretation, a subjective content. What we see before our mind’s eye has already been interpreted” (Bal 1997 166). The spatial configuration of Façade is more complex than a visual plane alone, as I demonstrate in this section.
between the female and male. Addressivity emerges when the name of the guest is selected from the list of ninety-five possibilities, with fifty-two masculine and forty-three feminine names. These names align the guest character with one side of the gender polarity represented throughout *Facade*.\(^{145}\) The role of gender in narrative can therefore be anchored to the selection of a name, the larger representative structure around it and how it organizes interaction.\(^{146}\) I now demonstrate this organization by explaining how the bar and the lounge are aligned with Trip and Grace as opposing stereotypical and binary genders.

**Addressivity and Place in Façade**

The places in *Façade* are addressive through the ways they reference pre-existing narratives. These are composed of references to gender and class within the three-dimensional apartment in *Façade*. Due to the distinct attributes assigned to these locations they can be understood as places within the larger representational space of *Façade*. As each character occupies the place they are aligned with, (Grace the lounge and Trip the bar), these locations each become specific within the conflict with their gender opposite, and each often calls for the guest/reader to join them there. In relation to the addressivity of places, there are objects located in bar and lounge that are positioned in accordance with the regime of binary gender (i.e. Masculine/Bar, Feminine/Lounge), which contributes further to the establishment of these places as guiding interaction with the text. The objects within each of these places function as

\(^{145}\) I contend that while the gender of the guest has little influence on the narrative outcome/s of the work, it is a structural element in narrative development that influences interaction.\(^{146}\) Similar critiques regarding gender representations in video games and how they control interaction have been made, whereby “gamers inadvertently subscribe to the game’s heteronormative ideology by having to choose characters of various races that are either blatantly female or blatantly male, each equipped with default exaggerated sexual organs and figures” (Ensslin, *Diegetic Exposure* 38).
either props in dialogue or as prompts for dialogue between the Façade characters and the guest according to the gendered themes.

The bar in Façade exhibits addressive qualities in how it provides context for Trip and his assertions of masculine pride and competitive achievements, to which the reader as the guest must respond. Alongside these contexts, the only way agency can be established by the guest is by observing and responding to the stereotypical gender roles for Grace and Trip. In relation to this place, Grace is the homemaker, a creative and emotional artist who focuses on the aesthetics of her life via the space around her. Alternatively, the bar area is linked to the character Trip, with its objects including the bottles of wine, glasses, a “magic eight ball” and the picture of the Italian countryside (Façade). When the guest is in the bar area the dialogue with Trip centers on the prestige that comes with the exclusiveness of the drinks, the competitiveness of his job, along with the knowledge and command Trip asserts in operating the bar and his efforts to control the relationship he has with Grace. This control is often expressed in relation to the virtual objects and space around him. As I described in chapter four, interacting with the objects particular to each of the two places links design and addressivity, or the ergodic with narrative in Façade.

The bar area is controlled and occupied by Trip and he verbally refers to it numerous times with statements that assert a sense of competitive and aggressive pride,

TRIP Oh, yeah, uh, I’m gonna fix us some drinks in a sec!
TRIP Ah, you need to help me break in my expensive new set of cocktail making accessories.
JIM: cocktails? I love cocktails
TRIP: Yeah, hang on, ooh, I’m going to make you one of my fabulous drinks in just a minute, heh! (Façade)

The bar is the only place in the apartment where Trip can display a power and status related to another mostly absent but powerful masculine figure in the text:

TRIP: Yeah, uh, we need drinks!
JIM: large drinks
TRIP: This is great... -- (interrupted)
TRIP: W -- well, uh, I’m going to open an exquisite Bordeaux!
TRIP: Best of the best, you can't buy this in stores.
Very, very special -
GRACE: God Trip, you are such a wine snob. Just like my dad. (Façade)

The comparison between Trip and Grace’s wealthy father adds to the masculine and authoritative qualities assigned to the bar as a place. In this sense, gender is inscribed upon the representational space of Façade through its places, whereby aggressive and competitive qualities are assigned to Trip (and Grace's father) via the bar. Therefore interaction is framed by pre-existing concepts and understanding of gender that are represented and referenced in the text. In this case responses are set up according to the power and status implied by the exclusive wine offered by Trip. The alcohol is presented in contrast to the tastes of Grace, which are often parodied and humiliated by Trip in the contexts offered by the bar. This humiliation is demonstrated in such exchanges as: “TRIP: Why don’t I make us one of my new drink inventions, TRIP: I call it Grace’s Inner Soul. TRIP: It's a mixture of chardonnay, bitters and lots of ice” (Façade). In this statement Grace as the feminine character is contrasted to the masculine prestige of the
bar and its associations with Trip. The bar emphasizes the polarized nature of gender represented in the two characters.\footnote{One of the inspirations for Façade is Edward Albee’s Who’s Afraid of Virginia Woolf? While the theme of conflict within a marriage is present in both works, I would argue the construction and performance of gender is very different between them. In Who’s Afraid of Virginia Woolf? the feminine character asserts far greater agency and power than is represented by her counterpart in Façade. This idea develops Schäfer’s assertion regarding conflicting “natural” attributes such as age/generation, temper, gender, physical appearance, or rather “social” attributes such as education, rank, professional success, ambition, alcoholism, etc.” (Schäfer 149).}

A further example of how gender and place are aligned is the picture of the Italian countryside beside the bar. The picture is from a holiday Trip references as a “second honeymoon” (Façade) and to which he draws attention:

TRIP: Oh, Jim, I thought you might like this photo I just put up from our recent trip to Italy.
JIM: thanks
GRACE: Uhh, it’s a beautiful picture of the Italian countryside, of course he’ll like it!
(Grace sips her Grace’s drink.) [sic]
TRIP: Grace, I know you don’t like it, but our friend might.
GRACE: By the way, anybody, join me on the couch if you like. (Façade)

The invitation from Grace to move into the lounge area (“join me on the couch if you like”) contributes to the idea that the two places in the apartment are extensions of the characters. If the guest moves away from the bar and joins Grace on the couch, and responds to ‘her’ objects, Grace’s perspective becomes addressive. In this way, objects connect characters to specific places according to the larger themes (i.e. marriage, career etc.). Accordingly, a move to the lounge by the guest shifts interactive focus away from Trip and towards Grace’s concerns. If Trip moves closer towards the couch (and Grace), focus shifts to the themes they share, such as marriage. In these shifts interaction from the perspective of the guest is limited in relation to the
specific concerns within the binary character relations (i.e. Grace/Trip Feminine/Masculine).

Figure 4.2: Façade, Trip next to picture at the bar (left) and Grace in the lounge

The relation of place to gender in Façade can be seen as addressive when marriage and love are introduced into dialogue by interaction with objects. In the bar area there is a picture on the wall that prompts a dialogue between each of the characters regarding love and romance (See Figure 4.2). By responding positively to Trip’s references to the picture and resisting Grace’s invitation to move into the lounge, themes emerge that correspond to Trip’s concerns:

TRIP: Um... uhh, Now, Jim, in one word, what does this picture say to you?  
GRACE: Say to you... say to you... yes, good question, good question. -- (interrupted)  
JIM: Love  
TRIP: Right! Love! Romance! (Facade)
Trip’s perspective on the Italian picture and the experience it represents is very different from Grace’s, or as she states, “Romance? Ha, in our marriage, that’s just a code word for manipulation” (*Facade*). Furthermore it can be argued that the basis for Trip’s conception of “Love! Romance!” is grounded in stereotypical gender roles, based in the role of Grace and the homemaker and Trip as the professional. As long as the guest remains within the area of the bar and responds positively to Trip’s prompting in regards to the picture, these gender roles provide contexts for the guest. The guest is thus restricted in responding by remaining in the bar area and engaged with Trip’s perspective. In doing so, the addressive stance of the text shifts from one set of stereotypical gender depictions to another.

The connection between gender and place is developed further in how the lounge of *Façade* is addressive. The lounge features objects connected to Grace’s ambitions as an artist, (pictures, glass objects and the couch), as well as her marriage and home life, which are expressed in relation to decorating and furnishing. In particular, the couch is a source of frustration for Grace, who speaks of it with regret; “(little sigh) So I just had to have this couch... but, dammit, it’s wrong, it’s all wrong, I should have chosen a modest, simple love seat!” (*Façade*). The ‘little sigh’ and regret over the present furnishings and the image of the ‘love’ seat suggest the couch is a symbol. Moreover, the couch is not only a symbolic object in the narrative; it is an object contrasted to the ‘love seat’ she does not own. The couch is thus a point within the lounge for the reader to enter into the story of *Façade* from the perspective of Grace:

(JIM sits on the couch.)
GRACE: Jim,
GRACE: you and I are getting along so well tonight... 
GRACE: Stay there for a moment...,
GRACE: I want your opinion. Stay there. --
(interrupted)” (Façade).

The insistence by Grace that the guest (JIM) ‘stay there’ on the
couch suggests the virtual object has an interactive role. The
guest can enter into a discussion with Grace about the couch
and its status as “wrong” by taking up a physical position (a
place) in relation to it.148 Thus the couch as addressive includes
the concerns the character has regarding the space she shares in
her relationship with Trip. Narrative themes of regret, ambition
and frustration emerge through the interaction between the
couch and characters (including the guest) in Façade. By
staying in the place chosen by Grace (the lounge), the guest is
literally and metaphorically placed in relation to her regret and
frustration. As a result, the couch, as one of the attributes of
that place influencing the choices, actions and characters that
are available to the guest. Other objects, such as the picture I
have already mentioned, the glass ornaments, the telephone
and the view (I discuss below) prompt themes of anger, jealousy
and regret.

The gender roles depicted in the marriage of Grace and
Trip are a prerequisite for interaction. This, in turn, translates
into one character having greater agency in the conflict over
themes attached to the objects. Many of these conflicts are
played out in relation to the places depicted in the work. Such as
when Grace asks the guest, “Jim, how about something simple,
like a nice glass of chardonnay?” with Trip replying, “Yeah, no,
we need to open this wine! Our friend is here, we’re going to
enjoy ourselves, that’s all there is to it! GRACE: (frustrated
sigh)” (Façade). Thus Grace is denied agency at the bar (a place
dominated by Trip) in that she is unable to choose her own

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148 By including the couch as part of interaction the guest enters into a
dialogue with the characters based on the spatial, which is also present for the
glass objects and the paintings in the lounge.
drink, and once again fails to find her own voice in the dialogue with Trip. As a result, a single perspective in relation to the gender binary that is Grace/Trip is available to the guest. A narrative direction initiated by Trip is established for interaction and is the only way for the story to move forward. Thus addressivitty operates between place, the objects that qualify it (in this case wine bottles), along with the characters and how these define the possibilities for responding to the text, and finally in regard to the focalization provided by the guest in a first-person avatar perspective.

The representations of gender by the characters include the roles they assume in their professional and personal lives. Many of these roles are expressed in conjunction with the places of the text. The home and work are given separate significance, but both elements are played out in the domestic space in relation to the identity of each character. The professional roles that define the characters enter the domestic space via its objects and places and this process can be understood as addressive. Both characters perform and describe household and professional labor according to these polarized roles. Furthermore, although she has a career, Trip belittles it and Grace is forced to focus on her interior decorating in the dialogue.

GRACE: Oh, yeah, let me tell you about work! I’m the lead designer on a new project, heh.
TRIP: Our project.
TRIP: It was quite a coup when I brought this new account in. Print ads for bridal fashions.
TRIP: Very big.
GRACE: Trip’s job is to use his 'charm' to woo the feminine clients. -- (interrupted) (Façade)

Trip is once again is the masculine presence in the text, appealing to “the feminine clients” and asserting power and
control over the professional achievements of Grace. Elsewhere, Grace expresses frustration with her job, is not sure about her professional abilities and declines to boast of her achievements (Façade). In the “lead designer” example, Trip’s overrides Grace’s achievement, when it becomes “our project” and lessens its value from Grace’s perspective with his appropriation. Grace’s subsequent cynicism regarding Trip’s ‘charm’ is a reference to the larger theme of infidelity and marriage, which I first examined in the previous chapter in relation to the brass bull ornament. The themes of infidelity and marriage, which I turn to now, are addressive in relation to the representation of heteronormativity, which governs all interaction with the characters of Façade.

Façade has a bias towards the reader/guest relating to Trip and/or Grace based on heterosexual identities. Any contra-heteronormative interpretations are met with uncomfortable and stilted redress from the characters. For example, Grace counteracts Trip’s expressions of pride that emerges from responses to the Italian holiday picture and the word ‘fetish’, something that a guest with a feminine name takes up by flirting with Grace:

GRACE: Trip, you see, your fetish for all things European is making our friend very uncomfortable!
ANNE: I have a fetish for you, Grace.
GRACE: Ha ha ha, Anne, it's so funny how you like to flirt with me...
TRIP: No no no, let’s not – let’s not do that tonight. Please....
GRACE: (clears throat) (Façade)

Grace’s response effectively closes off any further flirtatious responses from the guest, when the physical gesture of clearing her throat cuts off the dialogue. The results are very different when it is heterosexual flirting between a guest with a masculine
name and Grace; “GRACE: Jim, you know I love it when you flirt with me. (JIM sips his player’s drink). TRIP: No no no, let’s not -- let’s not do that tonight. Please” (Façade). The similar responses of Trip in both situations illustrate the character’s consistent attempts to exert control over Grace. The ‘flirting’ exchange is one example of a heteronormative addressivity in Façade that restrictively defines interaction. Accordingly, interaction with Grace and Trip are restricted to themes of a married, monogamous, heterosexual couple. All responses to Façade must acknowledge these characteristics if interaction is to result in a narrative according to the design of the work (as described in the prefaces – see chapter two). In relation to this design, the selection of a gender-specific name in the preface establishes the gender binary that influences addressivity in Façade.

To summarize how the spatial representation of gender functions as addressive in Façade, it is related to places and objects. References to gender that suggest interaction begins with the selection of the name for the guest. This positions responses to the text to a single point of focalization within the larger structure of the text. This structure is spatial in how characters and the places associated with them take on gender attributes. The linkages between the characters representing gender and the places supporting these representations are demonstrated in how the lounge is the place most associated with Grace and the bar with Trip. The division along gender lines is further reinforced by the professional and private lives of Grace and Trip. According to these addressive structures in the text, the three broad possible outcomes of Façade are a) the guest being ejected from the space, b) one of the couple (Grace or Trip) leaving or c) a form of reconciliation occurring between the pair and them coming closer together (both emotionally and in the space). This reconciliation suggests a realignment of the
gender polarity with Trip and Grace staying together based on equal admissions of guilt related to power and fidelity in the marriage. By selectively resisting or following prompts in dialogue and from objects the guest can attain one of these three general outcomes.

The dichotomy of domestic space versus professional ambition qualified by gender defines narrative outcomes in Façade (a division that is itself stereotypical and therefore pre-existing). This is an addressivity that qualifies the ergodic properties of Façade in how it takes up perspectives in the space of the apartment depending on the places and the objects that compose that space as representational. The addressivity that anticipates response in relation to gender is governed by the feminine construct represented in the domestic, professional and even aspirational components of Grace and how this is recognized in the division of the space. Similarly, Trip represents the masculine components of gender in what is a binary construct between the two characters, which for Trip is expressed in the space of Façade in relation to power, control and ambition. Interaction as response thus must follow this addressivity, according to the binaries of gender I have described in this section. By following the prompts of Trip and the place he controls (i.e. the bar) that perspective is reinforced in the narrative. Likewise by observing Grace’s prompts and the objects that make up the place she expresses herself in (and attempts to control) her perspective on narrative dominates interaction. A similar structuring of space as an addressive element is present in the representation of social class in Façade.

Possible endings from the guest’s perspective are; 1) Get kicked out, 2) Grace leaves, 3) Trip leaves, and 4) Trip and Grace stay together with the guest leaving. This final outcome can involve Trip admitting to the affair and Grace admitting to sleeping with an art major named Vince the night before Trip proposed, and they the decide to stay together (Façade).
Addressivity and Social Class in Façade

References to class in Façade are to a hierarchical social categorization that includes gradations of education, agency and power. These references to class are bound up in the representations of and references to places in the text. The resulting structure is an important part of addressivity, based on how it qualifies interaction and the contribution of the ergodic to narrative development. To demonstrate this claim I examine how social class is represented in Façade in the representation of places. From the representation of place indicators of class impose restrictions on interaction with the digital text. These restrictions come from the pre-existing narrative associations, in the sense that class–based distinctions contribute to the space of Façade as pre-existing concepts. These class distinctions combine with dialogue with the characters within representational space. The examples I discuss of social class connected to the spatial are as places that rely upon addressivity and contribute to how Façade functions as a narrative. In the representation of social class in the places of Façade, there are multiple indicators for the apartment being located in an upper-middle class neighborhood.

The urban location of the apartment, its objects, and the way it is referred to by the programmed characters, along with their speech accents combine as references indicate social standing in relation to place and thus provide contexts for interaction. The center of these surroundings is of course the well-appointed apartment, which is an object of class status in itself. The apartment includes the furnishings, artwork, bar, and the balcony-view. Within its borders the apartment has many objects that function as iconic gauges of an upper-middle class home. These objects prompt the references to class in dialogue and frame all interactions with the text. Combined with the
space and its objects as signifying social class, the speech of the two programmed characters also contribute to this addressivity. The speech accents of the Grace and Trip are marginally different when compared to each other, and as I go on to explain this further establishes place as a dimension of the drama. In Façade the accents of the characters contribute as a class-based component to narrative.

The speech accents of Grace and Trip and their parents (via the telephone) reference class and place in the addressive anticipation of responses. The Façade characters speak only in English from the urban, affluent United States, which frames them in a particular set of pre-existing narrative contexts. Wealth, education, etiquette and sophistication are referenced by the accents of Grace and Trip, often expressed in the knowledge of expensive commodities. Grace’s lines are spoken in a North American urban accent, more specifically an educated Inland North East dialect. Grace has a slightly higher status accent compared to her partner Trip, who speaks with a more inflected accent. This difference in accents provides a subtle context for the feminine character in relation to the background she was born into, described by Trip as with “a silver spoon” in her mouth (Façade). This class-status is something he expresses as being ashamed of, and the guest must respond to this shame and the resulting tension on several occasions in dialogue. An example of this shame is when Trip’s mother telephones, and the couple respond; “GRACE: Anyhow, Trip’s parents... They’re sweet people, really down to earth – TRIP: Uhh, no, they’re ignorant, they wouldn’t know [...] a cummerbund from a cucumber” (Façade). Addressivity

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150 The accents used in Façade can be contrasted with those used to signify south central Los Angeles in Last Meal Requested.
151 The presence of the Northern Cities Vowel Shift in the spoken audio of Trip and Grace, as “a kind of circular movement of vowels [...] downwards” (Trudgill 155-156), indicates the Inland North East Dialect of the characters.
regarding class thus comes from the judgment of Trip regarding his parent’s ignorance of social etiquette and this provides contexts for interaction with the characters of Façade.

In this way, accents provide additional information regarding the characters, as well as contexts for the place in which the three main characters of Façade perform. The examples illustrate how audio can be used to set up the contexts for interaction as part of a process of addressivity. The expectation for responses built into the narrow range of speech accents used in Façade is continued in the apartment as a location and object of class status. In each case it is about the representation of place, or in other words the specific characteristics of a location and how that is relative to the larger field (i.e. the United States, urban life, heterosexual marriage), which provides the contexts for responding to the work.

Trips’ past, which includes his parents, is projected through the apartment as a dimension of social class. What Trip describes as the “fabulous home of Grace and Trip” is contrasted to “slumming it,” which both characters associate with places outside the space of narrative (Façade). These places that are not ‘fabulous’ are the outer suburbs or rural places. A hierarchy of place thus results from the representation of a center as “fabulous” and the periphery as “slumming it” in Façade. According to Trip, “Grace has always enjoyed slumming it. That’s why she likes visiting them [his parents]” (Façade). Also associated with the lower class status of his parents is Trip’s part-time job in college as bartender at a sports bar “in the sticks” (Façade). The sports bar provided a chance for Grace to go with her friends “slumming it off campus,” where she first meet Trip, once again referencing the class differences (Façade).
The neighborhood location of the apartment in *Façade* further demonstrates how place is defined by class in representational space. From the window leading out to a balcony the reader is visually exposed to a downtown 90-degree panorama of high-rise apartment buildings with a waterfront (See Figure 4.3).\(^{152}\) In the water are jetties where large yachts are moored. The outside panorama contextualizes the apartment in relation to place and class as a dimension of addressivity. In keeping with the themes of marriage and conflict the visual location of the apartment prompts Grace’s feelings for her home-life being ‘out-of-place’ when she states:

GRACE: (little sigh) You know, everybody says the view from our balcony is fantastic...

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\(^{152}\) The quality of the panorama image is not high, and it is not truly spatial in the sense of three-dimensional, but this is once again an example of an iconic reference rather than a realistic simulation as I explain in chapter one. Like the Rodney King beating video in *Last Meal Requested*, the panorama of the city at night in *Facade* stands in for its object and does not assume the status of the object itself.
JIM: yes
GRACE: (little sigh) So everybody loves this view...
(JIM picks up a players drink.)
GRACE: but I’d really rather see some trees or something... a natural green would enhance the colors of the room so much better.
TRIP: uhh... (Façade)

In this passage the view is addressive in relation to Grace’s interior domestic life. The general context for the view, as a luxurious place devoid of nature, becomes a source of tension in the relationship of Grace and Trip and that the guest must respond to.

Responding to the balcony-view is dependent on the conflicting interpretations given to it by each of the characters. Grace expresses negative feelings for the view, as it does not “enhance the colors of the room” (Façade). The guest (JIM) agrees with Grace’s assessment of the view, by responding with a “yes”, and a deeper context in relation to place is thus opened. However, Trip does not share Grace’s opinion of the view, indicated by the glottal “uhh...” and presumably understands the view as a status symbol in keeping with the general perspectives of the character. In the concerns of Grace, the exterior of the apartment becomes its literal façade, with its obvious signs of wealth and status (e.g. the marina with its yachts), becoming the antithesis of what she (internally) desires. Each of these points contributes to the overall addressivity associated with the balcony image, with its connections to social class and the conflict between Grace and Trip. In this case these points are expressed through the representational status of place in language prompted by the view as a virtual object. The class distinctions related to place must be acknowledged when interacting with Façade for the story to move forward. Trip’s pretensions and admiration for the upper class life, often linked to Grace’s family and background, have influence upon reader interaction.
The telephone ringing introduces these admirations and class distinctions to the guest according to a set number of options. There is first the clear idea that Trip courts the ‘high class’ life in a much more active way than Grace;

PHONE ** RING **
TRIP: Grace, no, I want --
GRACE: Trip, please dear, don't be rude.
GRACE: It's probably just the execs at work inviting you to another one of your precious 'high class poker games'. (Façade)

Disdain is attached to the word “precious” and this is Grace’s attempt to degrade Trip in front of the guest, but at the same time it introduces his admiration of higher-class status. Grace’s parents are another source of this same status, exemplified by such passages as “TRIP: No, no no no no no, you've got to understand, Grace loves expensive furniture, she was totally spoiled growing up [...] you should see the inside of her parent’s house” (Façade). Trip’s desire to speak to his wife’s parents, “TRIP: Oh, it's your parents! I'll get it” (Façade), is contrasted with the way he contradicts Grace’s assessment of his own parents as ignorant and unsophisticated.

From the examples discussed so far, the stereotypical class contexts for interacting with Façade are applied to a) the distinction between Grace and Trip’s parents, b) the prestige of the social life attached to Trip’s professional life (e.g. “the execs at work inviting you to another one of your precious “high class poker games” Façade), c) the etiquette of dress and d) the location of what Trips describes elsewhere as “the fabulous new home of Grace and Trip” (Façade). These are drawn from contexts grounded in the recognition of place by the trappings of upper-middle class wealth and executive success. If the reader resists these contexts, either by contradicting the importance placed on class by Trip, or converse
to escape the same class distinctions, then the narrative stops with the guest likely to be ejected from the apartment.

*Façade* is the most sophisticated attempt among the digital texts examined here to embody addressivity in the spatial via the representation of place. Within the places of *Façade*, the representation of class, like the representation of gender, contributes to addressivity and influences all aspects of interaction. Similarly to gender, the representation of social class in *Façade* presents the contexts for interaction with the work as ergodic. The responses can only be made through the shifting focalization of the guest. For example, the guest can only respond to the accents of Trip and Grace based on the contexts they convey. These contexts center on references to the upper-middle class urban United States, possibly in Chicago. With its character accents, the audio of *Façade* combines with the indicators of place to set the perimeters for responsive interaction.

**Summary**

This chapter has examined the representation of place as addressive in the digital texts through representations and references to class and gender. This addressivity directs the responses that can be made to the text as interaction, in terms of the ergodic, towards specific narrative themes. The depictions of class and gender in *Façade* and *Last Meal Requested*, as well as a form of colonial nostalgia in *Egypt*, are major components in how interaction is coordinated according to “pre-existing narrative associations” (Jenkins 123). These associations are linked to the representations of place, where colonial nostalgia, gender and class images enmesh with characters within the places they occupy. In fact, to remove the

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153 Similarly, as I described above, *Last Meal Requested* represents class in relation to the amateur video of the Rodney King assault, a well-known historical event that is linked to South Central Los Angeles and the riots of 1992.
character from the places represented in the texts, as a method of analysis of digital interactive works similar to those discussed here, is to remove the larger part of the context and meaning the character may convey. Thus a character is dependent upon the settings in which that figure can navigate, manipulate objects and engage in dialogue. This dependency includes the avatar of the so-called player-driven characters (e.g. the guest in Façade).

The interdependency between character and place is a primary determinant for addressivity in the digital works. This addressivity is manifest in the pairing of Trip and Grace as the stereotypical upper middle-class American couple, which create oppositional networks by representing a traditional set of gender polarities. In Egypt a similar duality exists between Ross and Jeanette, with the narrator as the focalizing agent in the text interpreting the actions of Ross. The narrator’s perspective, shared as it is by the reader in an almost avatar-like sense, as they both experience places of colonial and imperial grandeur, which in turn sets up the gender polarities. In Last Meal Requested and Dreamaphage, gender and class are once again referenced as pre-existing narratives in the contexts provided by place. In the case of the former, the pre-existing narratives are related to the class divisions of South Central Los Angeles and the accents of recorded voices, and in Dreamaphage the narratives are already established with the expectations drawn from the generic image of a hospital. The reader is guided in navigating the works according to these pre-existing narrative associations. Interaction with the works is in response to the choices each character represents, often according to references to class and gender as I have pointed out above.

A media-specific focalization plays a major role in how these associations between characters and places are conveyed to the reader. From focalization, addressivity must be actively negotiated in a type of media-specific interaction that combines
co-creation with interpretation. Character-centered focalization directs this interaction towards particular key elements in the development of the narrative. Just as a first or third-person narrator directs reader attention in a printed novel, character or avatar focalization combines with other elements of addressivity, such as the representation of gender and place, to direct interaction in the digital interactive work. Such intentional control over interaction by an author counteracts the idea that works of digital literature such as these exist without the authority of a creator. The concept of empowered readers operating as agents was advanced in early hypertext theory (Landow 1991 184 178-79, Lanham 1993 6 76 and Bolter 1991 29 117 153-59) and has continued in various forms into later scholarship (Aarseth, Cybertext 173 and Atkins 2003 153). But the concept of readers having unregulated power fails to account for how the digital works both depart from and adhere to narrative traditions. It has been the intention of this present study to illustrate how spatial interaction is a dimension of narrative and how digital literature is created.

As I have discussed in this chapter, narrative in the digital works is grounded in complex networks of representation that exist between language and the materials of representation (i.e. audio, three-dimensional spaces). These networks must be interacted with according to the limitations described in this dissertation. There are choices involved in responding to the interactive digital works, but these choices exist in relation to addressivity, as well as design. In relation to the addressive, interaction is guided by the boundaries, for example in the necessity for the maintenance of heterosexual identity by the guest in Façade or in the acceptance of an anachronistic colonial Aswan in Egypt. These boundaries therefore have creative force in how responding to them within a range of possibilities, such as heterosexual identity in Façade, drives
narrative forward. The importance of space in establishing the perimeters for this interaction with digitally mediated narratives should continue to be developed as an intrinsic part of the research, as a consideration for methods and techniques of authorship and in the deepening awareness of reception practices for contemporary literature.

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Conclusion

In this dissertation close reading representational and representations of space in the prefaces, design and as modes addressivity has examined the role of space in interaction. The analysis has depended upon the theoretical supports of the spatial model of Henri Lefebvre (1972), the paratextual model of Gérard Genette (1997) and the dialogic model of addressivity from the work of Mikhail Bakhtin (1986). The result is an evaluation of the influence the spatial has on interaction with the digital works and a reassessment of the role the ergodic has in reading. The structures outlined in each chapter for the spatial and interaction can be both applied specifically to the digital works examined here as well as generalized in the broader field of digital literature. The digital works demand responses as interaction, such as text entry, navigation, and interpretation of the visual, audio and written text. This interaction is an important dimension of the ergodic, or “a work of physical construction” that requires “non-trivial effort” on the part of the reader (Aarseth, Cybertext 1). This analysis asserts that the spatial is a representational system that influences the possibilities for physically interacting with the digital works. I will now to summarize the major points arising from my analysis. Therefore I shall not return to chapter two and its literary communication model. I begin with the arguments presented in the opening chapter in relation to the established theory.

Chapter one explains how space functions as a representational medium in the digital works. This representational status operates according to how representational space “overlays physical space, making symbolic use of its objects,” in dialogue with representations of space, which tend “towards a system of verbal (and therefore
intellectually worked out) signs” (Lefebvre 39). I assert in chapter one that a combined system of representations of space and representational space in the digital works is composed of three dominant interface metaphors, which are a) perspective, b) monumentality and c) addressivity. Perspective is codified in three forms; the first-person perspective of the embodied avatar; in first-person perspective of the viewing subject; in the second-person perspective and the third-person perspective of the narrating character. Monumentality is grounded in the “the strong points, nexuses or anchors” (Lefebvre 222) of the digital works and how they coordinate interaction as a symbolic network. The virtual objects take on symbolic values and contribute to the spatial as monumental points that guide interaction. As well as monumentality, many of these points exhibit iconic qualities according to how each, “partakes of some more or less overt character of its object” (Peirce, Collected Papers 4 531). In all the four works discussed here iconic signs contribute to the spatial in relation to design and addressivity. This addressivity, or at the basic level “the quality of turning to someone” (Bakhtin, Genres 99), anticipates a response, and is a representational element present in the spaces of the digital work. Addressivity is perhaps most clearly demonstrated in the representation of places in the digital works, but it is found throughout in a variety of forms.

In chapter three the prefaces were examined for how they set up reader interaction with the spaces of the digital works. Two methods are described for how the prefaces use spatial representations to guide and limit interaction. Firstly, the prefaces attempt to prescribe interaction by representing the spaces of the works. These representations include maps, models and guides, help sections, FAQs and images of the texts. Secondly narrative elements, most often characters and objects from the narrative world are introduced to the reader in the
prefaces according to an ascending metalepsis (Kukkonen 3). This metalepsis extends the space of the digital works based on the prefaces as paratextual, or “an undefined zone between the inside and the outside, a zone without any hard and fast boundary” (Genette, *Paratexts* 1-2). I equate the ‘inside’ with the space of narrative (see Figure 3.1) and the ‘outside’ with the extra-diegetic space of the reader. The undefined zone that is the preface is a zone of approach for the reader, which introduces the digital works, particularly related to perspective. The interactive potentials of the digital works are part of this introductory extension of the space of narrative. I have described this extension of space through the representation of space and the introduction of characters and objects in the prefaces. I argue the reader is integrated into the space of the works are a result of how perspective is introduced in the prefaces through the representation of space and the presence in the prefaces of narrative elements from representational space (e.g. characters, objects, themes, places and events).

In chapter four, the analysis shifted to the design of the works and how space is represented and enforces responses as interaction within material configuration. In the design of the works the reader is made part of the spaces in the digital works through its representation, particularly in relation to the use of virtual objects and perspective. The representation of space in design confines interaction according to perspective. These are the first-person perspective of the avatar (*Façade* and *Dreamaphage*), the first person perspective of the viewing subject as a witness (*Last Meal Requested*) and the third person perspective of the narrating character (*Egypt*). I identify two further elements that define reception in the works according to design, and these are haptics (i.e. the iconic referencing of touch), and the representation of depth.
The simulation of touch by making objects interactive and meaningful in the works prompts narrative events, character actions or dialogue in *Façade*. Furthermore, the virtual books in *Dreamaphage* are examples of how haptics create a sense of reader perspective in relation to narrative. In both of these cases the objects contribute to interaction by making narrative order follow programming. In *Dreamaphage* and *Façade* haptics is a component of the first person avatar perspective. Haptic simulation results in positioning the point of interaction from within the representational space of the digital work. The representation of depth in design (e.g. the space around the virtual books in *Dreamaphage* being given depth by the animations) demonstrates the important influence navigation has on interaction. Depth, as the representation of near and far in the digital work, reinforced the idea of perspective as a coded spatial system. The perspective, haptics and depth created by the design of the work contribute to the framework of the space of narrative, from which narrative associations are realized as a result of reader interaction.

In chapter five the spatial dimensions of the digital texts are examined for addressivity, through examples related to class and gender, with particular attention paid to the representation of place. Specifically, place is presented as an addressive aspect of space according to how it is assigned representational values that anticipate responses as dialogue. To demonstrate the addressivity of places represented in the digital texts, it was explored through the representation of the hospital as a generic place in *Dreamaphage*, assigning class and gender to specific places in *Façade* and *Last Meal Requested*, and through a form of colonial nostalgia in *Egypt*. These representations of place and how they are addressive largely depend on “pre-existing narrative associations” (Jenkins 123). An example discussed is class and place in *Last Meal Requested* and the already existing
narratives related to the beating of Rodney King by LAPD officers and the violence that followed the trial. This in turn relates to narratives of Afro-Americans in the USA. In this sense places are addressive according to the narrative values that are assigned to them. The chapter argues that place is a representational element that frames interaction by providing contexts.

The conditioning of characters by places as settings is not new in literature; for example it has been identified as a technique in the novel. However, the conditioning of characters by space/place becomes a technique for directing interaction in the digital works. As I explained in chapter five, representational space includes places, often relying on the iconic status of virtual objects (e.g. the couch, a character accent) to separate one from another. These places are then assigned values that are also shared by characters in narrative action and experienced through focalization. For example, in *Egypt* the major division of space is according to nostalgia for the colonial period, where the colonized sites are places that are controlled and elegant. The remaining space is composed of dangerous and uncontrolled places (e.g. Isle of Fire). Characters move through these places and either resist or comply with the values assigned to them and narrative action follows accordingly. Similarly in *Façade* space is classified according to places, and the examples I discuss are the lounge, the bar, and the neighborhood. Each of these places is assigned attributes according to representational components within the large space of narrative. I demonstrate this by discussing how class and gender are referenced and represented in relation to the

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154 Here I refer to a tendency in the modernist novel towards, “the focus on everyday spaces, which implies a corresponding de-emphasis on high relief elements of narrative such as heroic characters, epiphanic events and teleological time. Space conceived of as ‘a mutually conditioning network of character, event and place’” (Seigneurie 10.4)
places of Façade. In each of the close readings within chapter five, the addressivity of the spatial is shown to be a major influence upon the interactive possibilities.

This dissertation points towards the development of a specific vocabulary for describing how works of digital interactive literature with ergodic attributes function as narratives. Concepts such as addressivity go a long way towards explaining some of the significant properties of digitally mediated narratives with ergodic properties. But it is necessary for more theoretical work to be done on interactivity as a component of narrative, both in the digital and other media. Likewise, the role of focalization in digital interactive literature needs to be explored further, particularly examining texts that use variations in focalization. The role of sound in such digital works has experienced considerable recent attention, most often via the related field of video game studies. But specifically in relation to sound, the relationship between sound and narrative space is one area that demands further research.

There remains a need for research that moves across traditional disciplines when considering how digital interactive narrative crosses boundaries between technologies, design, literature and culture. The resulting hybridity is an important but under-researched development in contemporary narrative. Finally, the attempt to describe in any formal way the process of reading a multimedia digital work has the potential to reflect back on the processes of authorship that go into its creation. While I have limited myself to focus on the works largely as texts, and focus that attention through close reading, it has always been an underlying intention of this study to contribute to the authoring of such digital works as those discussed here. Digital narrative works have enormous potential to engage and represent the human experience Building a set of genres, practices and a vocabulary of theory can contribute to this
creative mode of expression, even if it is as a set of rules to be broken in the future.
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